Boring Designation NTVC-05-28

DR	ILLING	LOG	DIVISION		l IN	ISTALI	LATION				T 1 1 SHEETS
. PRO				CPE	- la	SIZE	AND TYPE	F OF RIT	3.0 ln.	UF	i SHEELS
	North Topsa	il		LPE						FAI 1.7	TCAL
	North Topsa		h Carolina		10			SYSTEM/DAT	!		
	NOTET TOPSA		÷	ACCEPTANT AND	antr a			lina State Pla	<u> </u>		VD 88
	NTVC-05-28			596 Y = 273,521	11		noracion neumatic	KEK'S DESIGN	ATION OF DRILL	MANUA	AMMER L HAMMER
	LLING AGEN			CONTRACTOR FILE NO			Tieumauc		DISTURBED		JRBED (UD)
	America Vib			ONIKACIOR FILE NO	'. 12	2. TO	TAL SAMPL	LES	DISTURBED	ONDISTO	JKBED (UD)
	ME OF DRILL		IIIC.						<u> </u>	!	
	red Kaub	EK			13	3. TO	TAL NUMBI	ER CORE BOX	ES		
	ECTION OF E	ROPING	DEG. FROM	I BEARING	— 14	4. ELE	EVATION G	ROUND WATE	ER .		
	VERTICAL		VERTICAL						STARTED	COMPLE	TED
	INCLINED					o. DA	TE BORING		07-01-05 13:	50 07-01	-05 13:57
. THI	CKNESS OF	OVERB	URDEN 0.0 Ft.		16	6. ELI	EVATION T	OP OF BORIN	G -44.2 Ft.		
					17	7. TO	TAL RECOV	/ERY FOR BOI	RING 20 Ft.		
. DEP	TH DRILLED	INTO	ROCK 0.0 Ft.		- ⊢			ND TITLE OF			
. тот	AL DEPTH O	F BOR	ING 20.0 Ft.		"		W	IND TITLE OF	INOF EO FOR		
LEV.	DEPTH	EGEND		ON OF MATERIALS		 %	<u>8</u>		REMAR	ve	
(ft)	(ft)	<u>B</u>	Depths and elevations	based on measured v	alues	REC.	BOX OR SAMPLE				_
44.2	0.0					\vdash		Shell Hash calculat	ted from visual estimate of si	nell <4.75mm and >2.	8mm.
		$ \cdot\cdot $									
	<u> </u>	[∷ :]									
	L	<u> .::: </u>									
		ŀ∷·l									
	}										
		:::									
	-	[∷::[SAND, fine to mediu	ım grained, quartz, tr	ace						
	L	.	shell fragments, trace shell fragments @ 4.	snell hash, trace silt	, 1.0" a n'						
		-::-	1.0" x 1.0" rock fragr								
	-	····	3.0" shell fragments f	rom 10.5'- 11.5', 1.0"	- 2.0"						
			shell fragments @ 1	2.0', gray (5Y-5/1), (SP).						
	†	$ \cdots $									
	<u> </u>	.:::									
		·.·.									
	-	:::									
		$ \cdot\cdot $									
54.7	10.5	<u> :::</u> :									
		$ \cdot $	SAND, some shell fra								
<u>55.7</u>	11.5	 		nents range from 1.0 (5Y-5/1), (SP).	το	-					
56.3	_ 12.1	;;;	SAND, trace shell fra	gments, trace shell h	/ ash. г	4					
		V //	trace silt, 2.0" shell	fragment @ 12.0', gi							
	Γ	<i>V//</i>	(5Y-5	5/1), (SP).							
	<u> </u>	///									
	H										
	L		OLAV No-	(EV 2 E/1) (CL)							
		<i>V//</i>	CLAY, black	(5Y-2.5/1), (CL).							
	-	V//									
		/// /									
	 										
	L										
		V //									
64.2	20.0	<u>Y/4</u>				-					
			Fnd	of Boring							
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SAJ FORM 1836 MODIFIED FOR THE FLORIDA DEP JUN 02

Boring Designation NTVC-05-29

1. PROJECT North Topsail North Topsail North Topsail North Carolina No	DR	ILLING	LOC	DIVISIO	ON		IN	STAL	LATION	<u> </u>	dion wive c		SHEET 1
North Topsail. North Carolina North Topsail. North Carolina North Corpsail. North Carolina						CDE*	╁	6171	AND TYPE	OF DIT	2 0 ln		OF 1 SHEETS
North Topsall, North Topsall, North Cardina Control See Beneficial State Plane No. 1983 NAVD. 988			iil			LIPE	\vdash						
2. DORNE DESIGNATION				th Carolina			10				!		! I
Note						WWW.GDASTALPLANNING.NET	1.						
3. DRILLIA GABREY CONTRACTOR FILE NO. 12. TOTAL SAMPLES UNDISTURBED (UD)				N ;			11			RER'S DESIG	NATION OF DRILL	_	
Anmer of Definition And the property And the pro				!		<u> </u>	╁		Tieumauc		INISTUDBED		
4. MAME OF DRILLER 13. YOTAL NUMBER CORE BOXES 14. ELEVATION GROUND WATER 15. DATE BORING 17.01-05 14:25 07.01-05 14:25 07.01-05 14:31				. Inc	CON	I RACTOR FILE NO.	12	2. то	TAL SAMP	LES	DISTORBED	į or	ADISTORBED (OD)
FIRE (Kaub DIRECTION OF BORING STARTED DIRECTION OF BORING DIRECTION OF BORING DIRECTION DIRECTION STARTED TOPICIO 5 14/25 TOPICIO 5				5, IIIC.			+				:		
5. DIECTION OF BORING DEC. FROM SEARING VERTICAL 15. DATE BORING 07-01-05 14:25 07-01-05 14:31							13	s. 10	TAL NUMB	ER CORE BO	XES		
SANTED NOTATION VERTICAL 15. DATE BORING STARTED COMPLETED CONPLETED CONPL			BORIN	G	DEG. FROM	BEARING	14	l. EL	EVATION G	ROUND WAT	ER		
5. THICKNESS OF OVERBURDEN 0.0 Ft. 16. ELEVATION TOP OF BORING 4.3.3 Ft. 17. TOTAL RECOVERY FOR BORING 13.8 Ft. 18. SIGNATURE AND TITLE OF INSPECTOR (N.C.) ELEVATION TOP OF BORING 16.0 Ft. 18. SIGNATURE AND TITLE OF INSPECTOR (N.C.) ELEVATION OF MATERIALS (N.C.) ELEVATION OF BORING 13.8 Ft. 19. SIGNATURE AND TITLE OF INSPECTOR (N.C.) SIGNATURE AND TITLE OF INSPECTOR (N.C.) SIGNATURE AND TITLE OF INSPECTOR (N.C.) REMARKS THE MATERIAL (N.C.) REMARKS THE MATERIAL (N.C.) SIGNATURE AND TITLE OF INSPECTOR (N.C.) SIGNATURE AND TITLE OF INSPECTOR (N.C.) SIGNATURE AND TITLE OF INSPECTOR (N.C.) REMARKS THE MATERIAL (N.C.) T	_				VERTICAL		15	. DA	TE ROPINO	.	STARTED	CC	OMPLETED
7. DEPTH DRILLED INTO ROCK 0.0 Ft. 8. TOTAL DEPTH OF BORING 16.0 Ft. ELEV. DEPTH (ft) (ft) (ft) (ft) (ft) (ft) (ft) (ft)		INCLINED			<u>i</u>	<u>i</u>	Ľ				07-01-05 14:2	25	07-01-05 14:31
SAND for grained, cause till, carbonate, trace sand, trace silt, gravel up to 1.0°. light gray (6Y-771), (GW). GRAVEL, carbonate, trace sand, trace silt, gravel up to 1.0°. light gray (6Y-771), (GW). End of Boning 19. SIGNATURE AND TITLE OF INSPECTOR SOURCE SAND REMARKS See Hear casualed from visual address of	6. THI	CKNESS OF	OVERI	BURDEN	0.0 Ft.		16	. EL	EVATION T	OP OF BORIN	NG -43.3 Ft.		
B. TOTAL DEPTH OF BORNING 16.0 Ft. 16. SIGNATURE AND TITLE OF INSPECTOR KNW 16. SIGNATURE AND TITLE OF INSPECTOR REMARKS 16. SIGNATURE AN	7 DED	TU DBILLED	INTO	BOCK	0 0 Et		17	. то	TAL RECO	/ERY FOR BO	DRING 13.8 Ft.		
CLASSIFICATION OF MATERIALS CLASSIFICATION OF MATERIALS Depths and elevations based on measured values NEC. Set Seat Hain calculated from vasal elevation of shall 4.78mm and 12.88mm.	7. DEF	IN DRILLED	INIO	ROCK	U.U Fi.		18	s. SIG	NATURE A	ND TITLE OF			
CLASSIFICATION OF MATERIALS CLASSIFICATION OF MATERIALS CRASSIFICATION OF MATERIALS CRAS	8. TO1	AL DEPTH C	F BOF	RING 16	6.0 Ft.								
Gravely SAND, quartz, little shell fragments, 10" rock fragment @ 0.8", gray (SY-5/1), (GW). SAND, fine grained, quartz, little silt, trace shell hash, 0.5" x0.5" rock fragment @ 2.4", gray (SY-5/1), (SP-SM). GRAVEL, carbonate, trace sand, trace silt, gravel up to 1.0", light gray (SY-7/1), (GW). GRAVEL, carbonate, trace sand, trace silt, gravel up to 1.0", light gray (SY-7/1), (GW). Solve of the second state of the se							_						
Gravely SAND, quartz, little shell fragments, 10" rock fragment @ 0.8", gray (SY-5/1), (GW). SAND, fine grained, quartz, little silt, trace shell hash, 0.5" x0.5" rock fragment @ 2.4", gray (SY-5/1), (SP-SM). GRAVEL, carbonate, trace sand, trace silt, gravel up to 1.0", light gray (SY-7/1), (GW). GRAVEL, carbonate, trace sand, trace silt, gravel up to 1.0", light gray (SY-7/1), (GW). Solve of the second state of the se	ELEV.	DEPTH	Z					_%_	2		REMARI	KS	
Gravely SAND, quartz, little shell fragments, 10" rock fragment @ 0.8", gray (SY-5/1), (GW). SAND, fine grained, quartz, little silt, trace shell hash, 0.5" x0.5" rock fragment @ 2.4", gray (SY-5/1), (SP-SM). GRAVEL, carbonate, trace sand, trace silt, gravel up to 1.0", light gray (SY-7/1), (GW). GRAVEL, carbonate, trace sand, trace silt, gravel up to 1.0", light gray (SY-7/1), (GW). Solve of the second state of the se		(ft)	EG	Depths an	id elevations bas	ed on measured valu	es	REC.	BO)	Shall Llook!			m and 52 8mm
-44.3 1.0 little shell hash, trace sit, 1.0 * 1.0" rock fragment @ 28; gray (5Y-57) (.GW). SAND, fine grained, quartz, little sitl, trace shell hash, 0.5" x0.5" rock fragment @ 2.4", gray (SY-57), (.GW). GRAVEL, carbonate, trace sand, trace sitt, gravel up to 1.0", light gray (5Y-7/1), (.GW). GRAVEL, carbonate, trace sand, trace sitt, gravel up to 1.0", light gray (5Y-7/1), (.GW). GRAVEL, carbonate, trace sand, trace sitt, gravel up to 1.0", light gray (5Y-7/1), (.GW). GRAVEL, carbonate, trace sand, trace sitt, gravel up to 1.0", light gray (5Y-7/1), (.GW). GRAVEL, carbonate, trace sand, trace sitt, gravel up to 1.0", light gray (5Y-7/1), (.GW). GRAVEL, carbonate, trace sand, trace sitt, gravel up to 1.0", light gray (5Y-7/1), (.GW). GRAVEL, carbonate, trace sand, trace sitt, gravel up to 1.0", light gray (5Y-7/1), (.GW). GRAVEL, carbonate, trace sand, trace sitt, gravel up to 1.0", light gray (5Y-7/1), (.GW). GRAVEL, carbonate, trace sand, trace sitt, gravel up to 1.0", light gray (5Y-7/1), (.GW). GRAVEL, carbonate, trace sand, trace sitt, gravel up to 1.0", light gray (5Y-7/1), (.GW). GRAVEL, carbonate, trace sand, trace sitt, gravel up to 1.0", light gray (5Y-7/1), (.GW). GRAVEL, carbonate, trace sand, trace sitt, gravel up to 1.0", light gray (5Y-7/1), (.GW). GRAVEL, carbonate, trace sand, trace sitt, gravel up to 1.0", light gray (5Y-7/1), (.GW). GRAVEL, carbonate, trace sand, trace sitt, gravel up to 1.0", light gray (5Y-7/1), (.GW). GRAVEL, carbonate, trace sand, trace sitt, gravel up to 1.0", light gray (5Y-7/1), (.GW). GRAVEL, carbonate, trace sand, trace sitt, gravel up to 1.0", light gray (5Y-7/1), (.GW). GRAVEL, carbonate, trace sand, trace sitt, gravel up to 1.0", light gray (5Y-7/1), (.GW). GRAVEL, carbonate, trace sand, trace sitt, gravel up to 1.0", light gray (5Y-7/1), (.GW). GRAVEL, carbonate, trace sand, trace sand, trace sitt, gravel up to 1.0", light gray (5Y-7/1), (.GW). GRAVEL, carbonate, gravel up to 1.0", light gray (5Y-7/1), (.GW). GRAVEL,	-43.3	0.0	 	Gravely	/ SAND_quartz_l	ittle shell fragments				Snell Hash calcul	ated from visual estimate of sr	ieii <4./5mi	m and >2.8mm.
fragment @ 0.8; rgs (5'-5'1), (GW). SAND, fine grained, quartz, little sit, trace shell hash, 0.5' × 0.5' rock fragment @ 2.4'; gray (5'-5'1), (GP-SM). GRAVEL, carbonate, trace sand, trace silt, gravel up to 1.0'', light gray (5'-7/1), (GW). GRAVEL, carbonate, trace sand, trace silt, gravel up to 1.0'', light gray (5'-7/1), (GW). Solve of the state o	-44.3	1.0		little s	hell hash, trace s	silt, 1.0" x 1.0" rock							
hash, 0.5" x 0.5" rock fragment @ 2.4", gray (5Y-5/1), (SP-SM). GRAVEL, carbonale, trace sand, trace silt, gravel up to 1.0", light gray (5Y-7/1), (GW). Solution of the state of the sta		1					_/	1					ļ
hash, 0.5" x 0.5" rock fragment @ 2.4", gray (5Y-5/1), (SP-SM). GRAVEL, carbonate, trace sand, trace silt, gravel up to 1.0", light gray (5Y-7/1), (GW). -57.1 13.8 No recovery. -59.3 16.0 End of Boring		L	-:	SAND, fi	ne grained, quar	tz, little silt, trace she	ell						Ļ
-47.1 3.8 -11			·:	hash, 0	0.5" x 0.5" rock fra	agment @ 2.4', gray							
GRAVEL, carbonate, trace sand, trace silt, gravel up to 1.0°, light gray (5Y-7/1), (GW). Solution of the state of the sta		-	1:-114		(5Y-5/1), (S	SP-SM).							-
GRAVEL, carbonate, trace sand, trace slit, gravel up to 1.0°, light gray (SY-7/1), (GW). Solution of the state of the sta	-47.1	3.8	<u> • </u>										
GRAVEL, carbonate, trace sand, trace slit, gravel up to 1.0", light gray (5Y-7/1), (GW). Solution of Boring End of Boring			0										Γ
- 1.0 gravel up to 1.0", light gray (5Y-7/1), (GW). - 1.1		L	. 0										-
- 1.0 gravel up to 1.0", light gray (5Y-7/1), (GW). - 1.1			· 6										
gravel up to 1.0", light gray (5Y-7/1), (GW).		-	0										F
gravel up to 1.0", light gray (5Y-7/1), (GW).			0										L
gravel up to 1.0", light gray (5Y-7/1), (GW).													
gravel up to 1.0", light gray (5Y-7/1), (GW).		-	0										-
-57.1 13.8 No recovery59.3 16.0 End of Boring			0										
-57.1 13.8 No recovery59.3 16.0 End of Boring			0	gravel	up to 1.0", light g	ıray (5Y-7/1), (GW).							Ī
-57.1 13.8 No recovery59.3 16.0 End of Boring		_	0										L
- No recovery. -59.3 16.0 End of Boring			0										
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- No recovery59.3 16.0 End of Boring		-	. 0										-
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-59.3 16.0 End of Boring		<u> </u>											ŀ
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DRILLING LOG	DIVISION	INSTALLATION SHEET 1 OF 1 SHEETS
PROJECT North Topsail North Topsail, North Ca	arolina	9. SIZE AND TYPE OF BIT 3.0 In. 10. COORDINATE SYSTEM/DATUM HORIZONTAL VERTICAL North Carolina State Plane NAD 1983 NAVD 88
BORING DESIGNATION NTVC-05-30 DRILLING AGENCY	LOCATION COORDINATES X = 2,504,551 Y = 274,883 CONTRACTOR FILE NO.	11. MANUFACTURER'S DESIGNATION OF DRILL AUTO HAMMER Pneumatic MANUAL HAMMER DISTURBED UNDISTURBED (UD)
America Vibracore, Inc. NAME OF DRILLER Fred Kaub	. !	12. TOTAL SAMPLES 13. TOTAL NUMBER CORE BOXES
DIRECTION OF BORING VERTICAL	DEG. FROM BEARING VERTICAL	14. ELEVATION GROUND WATER STARTED COMPLETED 15. DATE BORING
THICKNESS OF OVERBURD		07-01-05 14:55 07-01-05 15:00 16. ELEVATION TOP OF BORING -42.0 Ft.
DEPTH DRILLED INTO ROCK		17. TOTAL RECOVERY FOR BORING 12.5 Ft. 18. SIGNATURE AND TITLE OF INSPECTOR
LEV. DEPTH W	12.5 Ft. CLASSIFICATION OF MATERIALS pths and elevations based on measured value:	Wes REC. Shell Hash calculated from visual estimate of shell <4.75mm and >2.8mm.
47.0 5.0 Gr. has root SA	SAND, fine grained, quartz, trace shell hash, trace silt, gray (5Y-6/1), (SP). Fravely SAND, fine grained, quartz, trace shell sh, trace silt, (2) 1.0" shells @ 5.1', up to 2.0 ck fragments @ 5.1', 5.5', 5.6', 5.7', 6.0' and 6.2', dark gray (5Y-4/1), (GW). AND, fine grained, quartz, little silt, trace shell hash, dark gray (5Y-4/1), (SP-SM). RAVEL, carbonate, trace shell hash, trace silt gravel up to 3.0", gray (5Y-6/1), (GW).	ell .o" nd fell fell fell fell fell fell fell fel
- - - -	End of Boring	
-		

SAJ FORM 1836 JUN 02 MODIFIED FOR THE FLORIDA DEP

APPENDIX 22

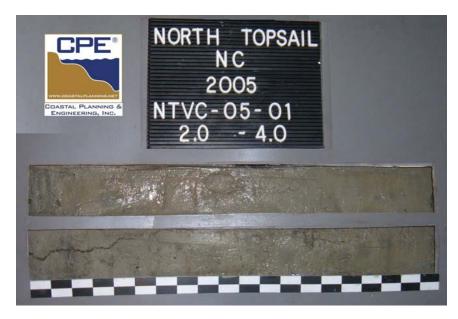
2005 CPE INDIVIDUAL VIBRACORE GRANULARMETRIC REPORTS OFFSHORE BORROW AREA (DIGITAL COPY ONLY)

APPENDIX 23

2005 CPE INDIVIDUAL VIBRACORE GRAIN SIZE DISTRIBUTION CURVES/HISTOGRAMS OFFSHORE BORROW AREA (DIGITAL COPY ONLY)

APPENDIX 24 2005 CPE VIBRACORE PHOTOGRAPHS OFFSHORE BORROW AREA

















































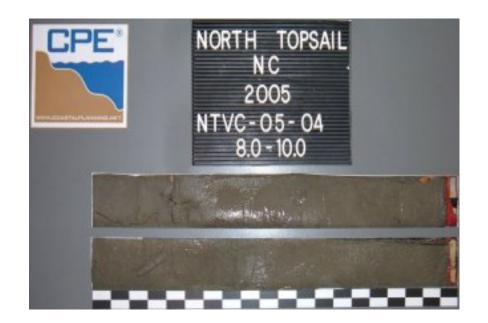








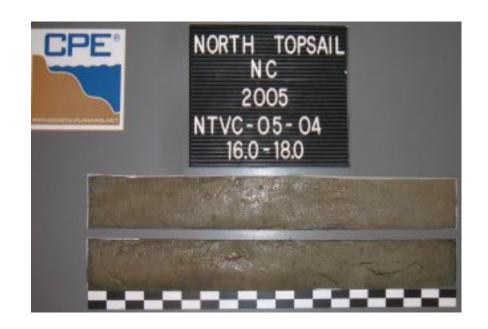




























































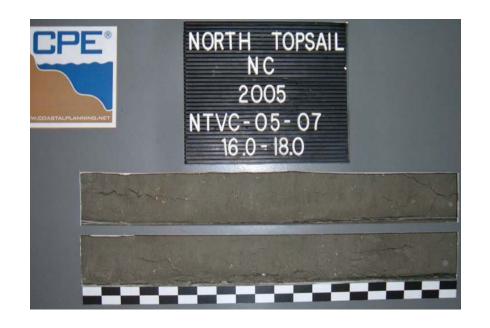










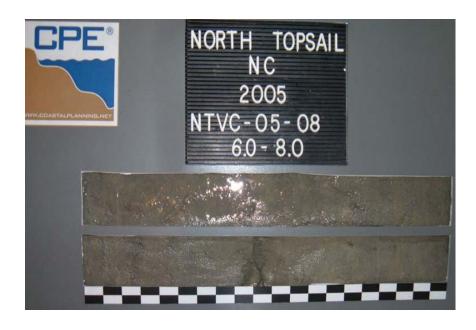






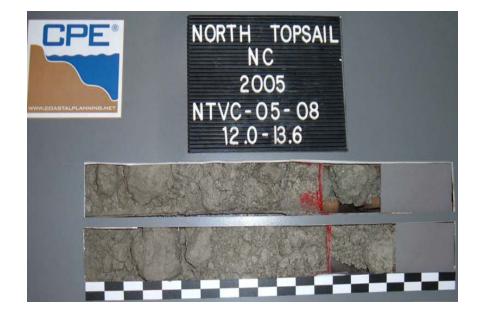








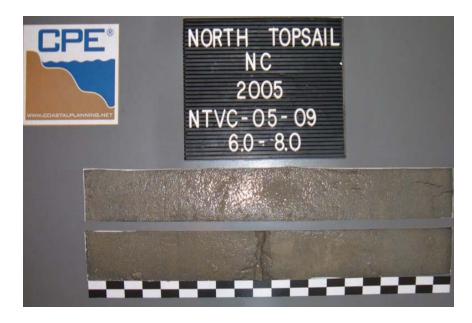




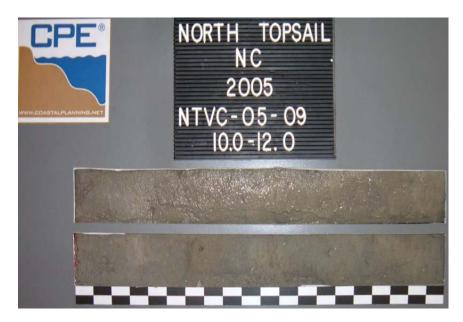


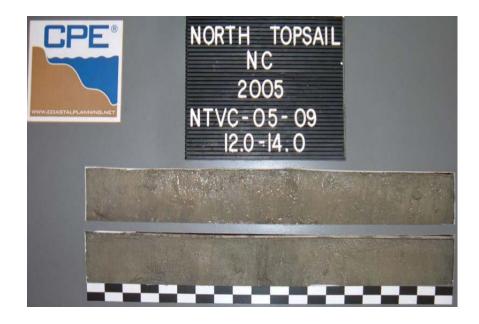


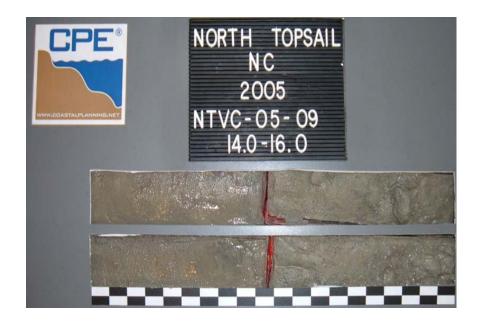
























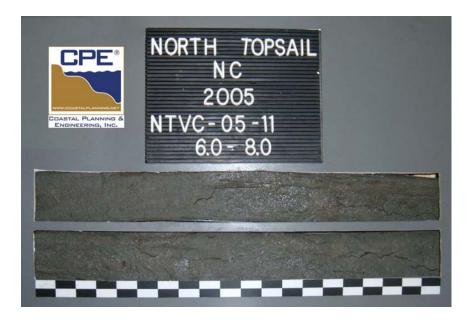






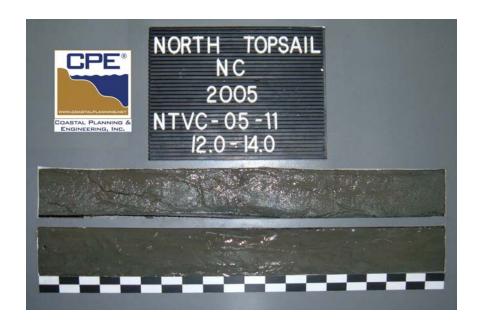




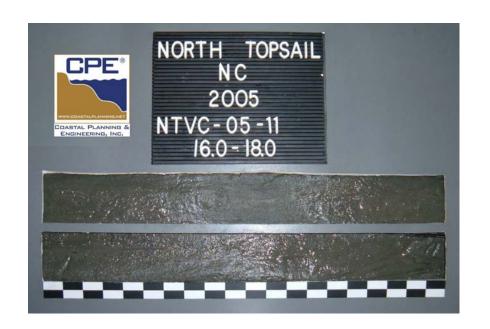


















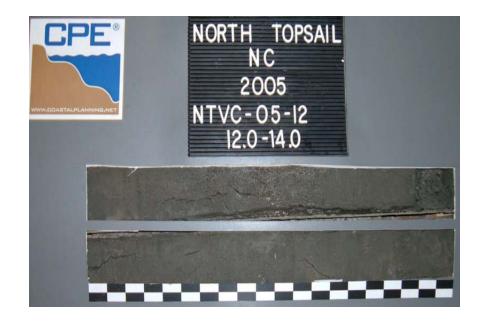


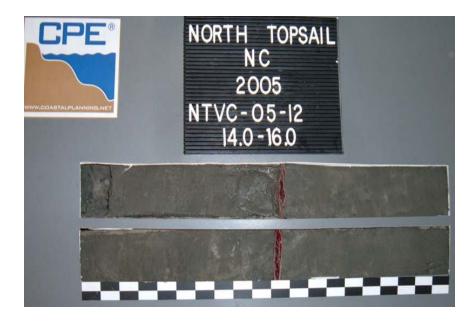




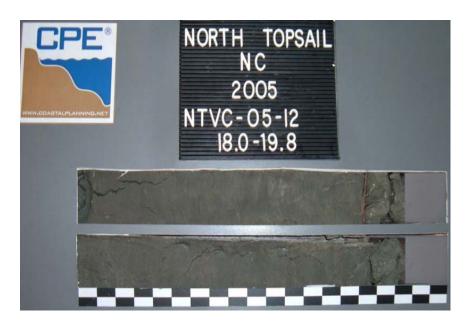






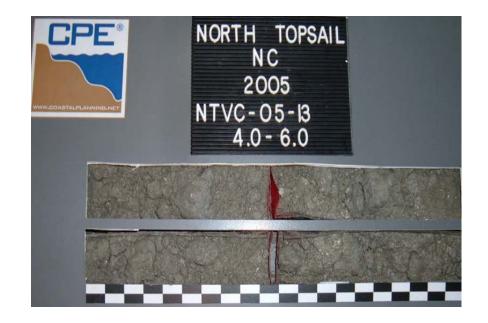














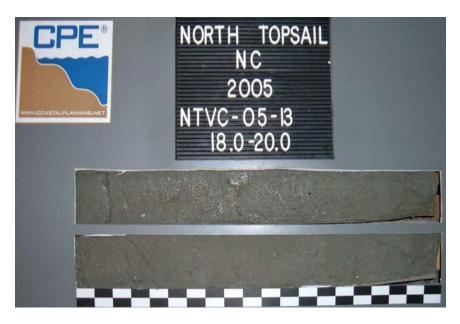












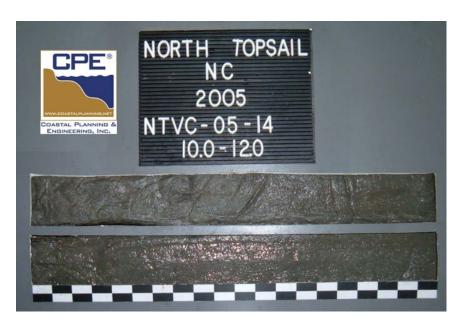
















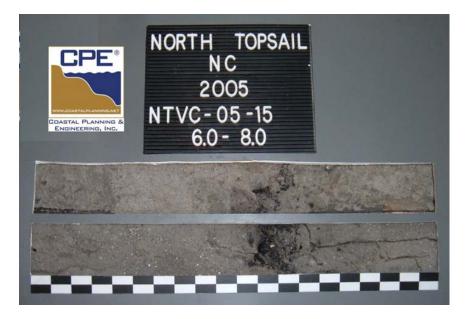
















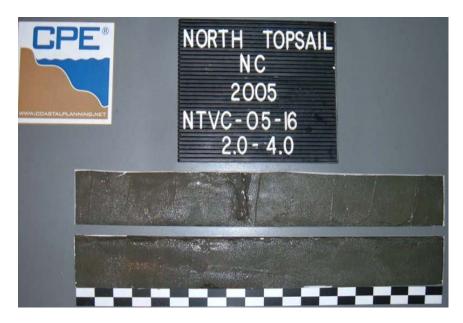


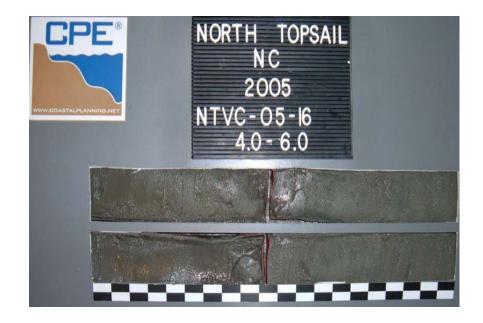


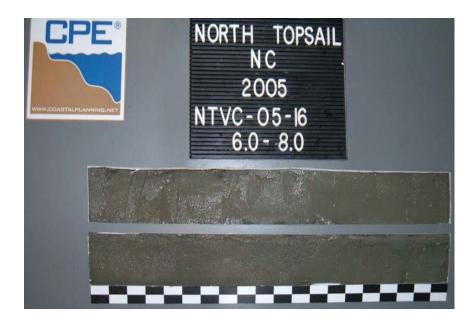


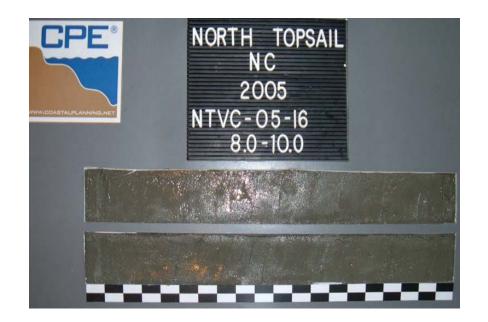


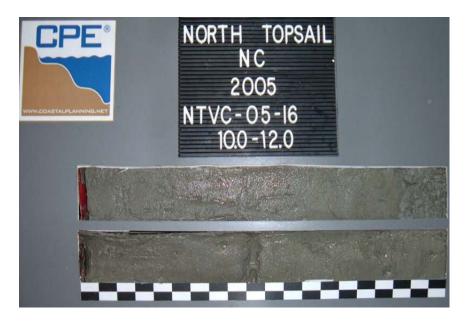


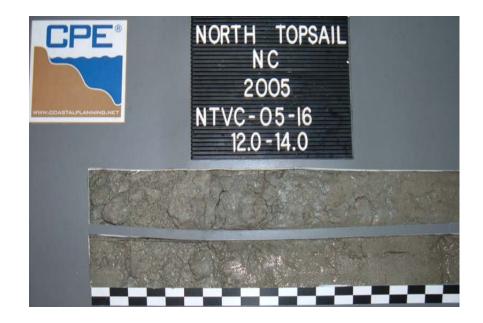


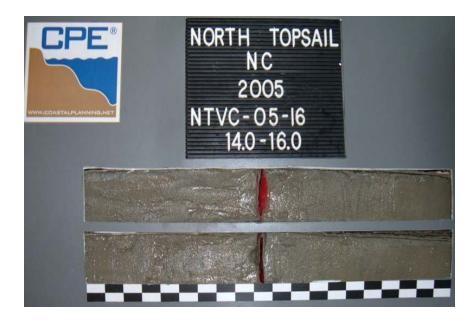










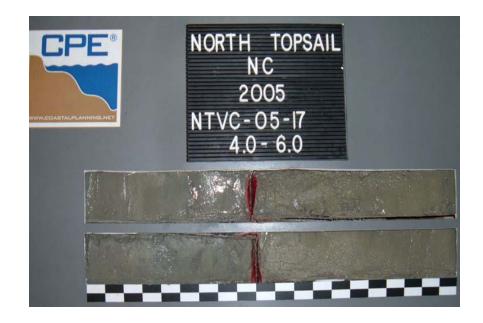


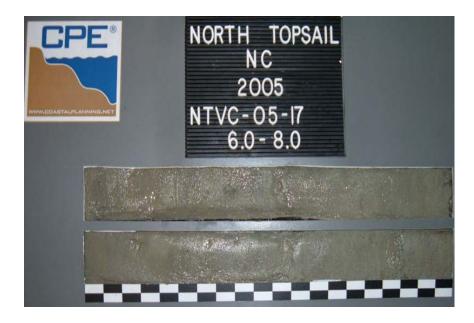


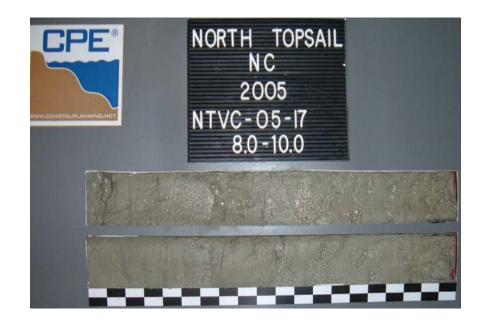




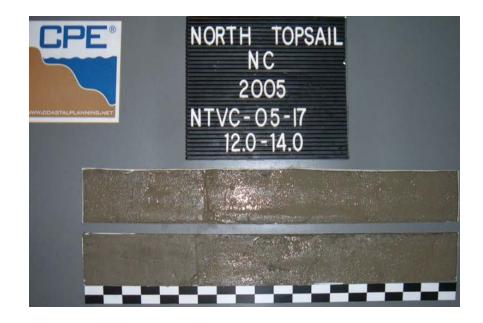


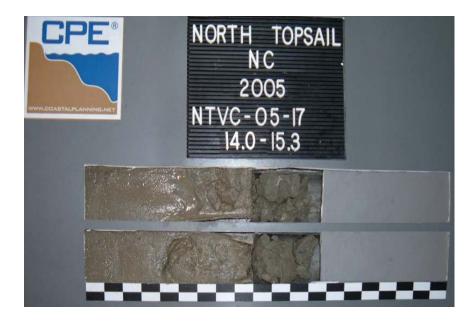






































































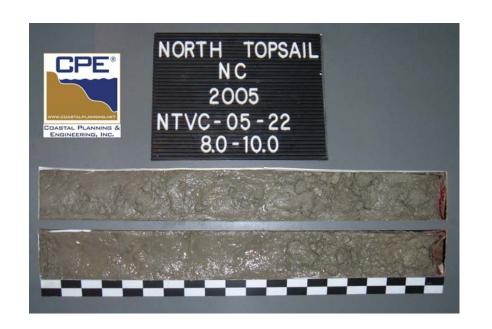






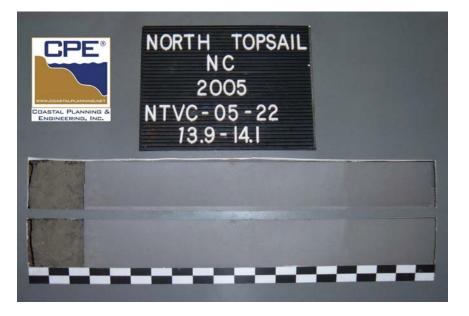








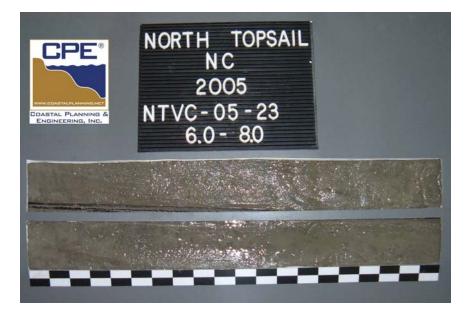




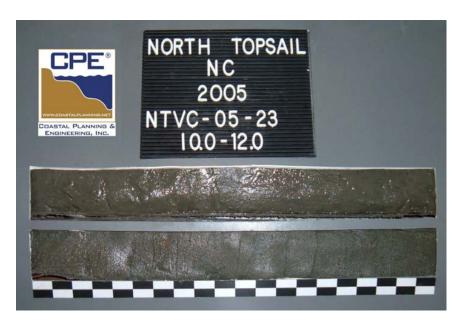






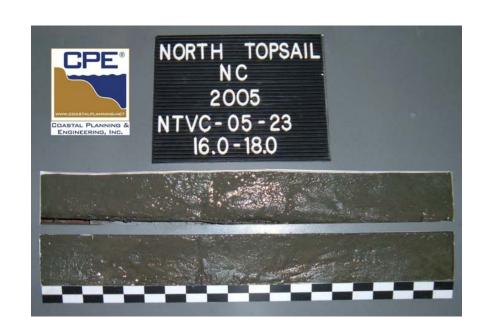
























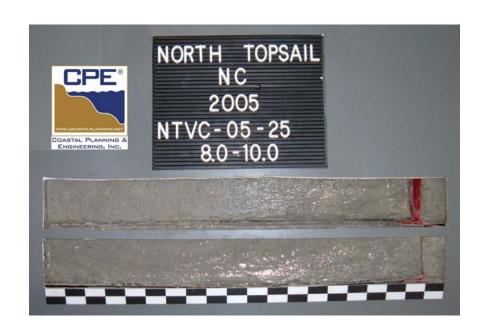


























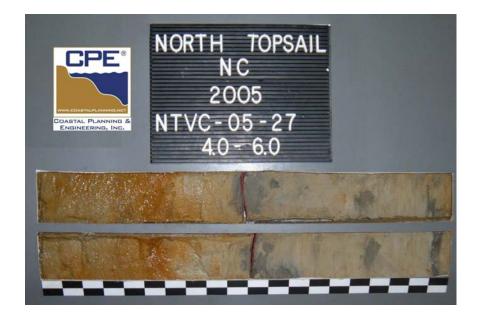




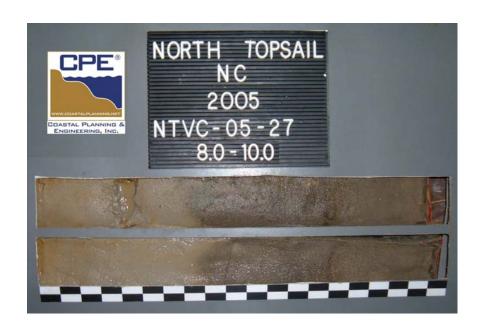


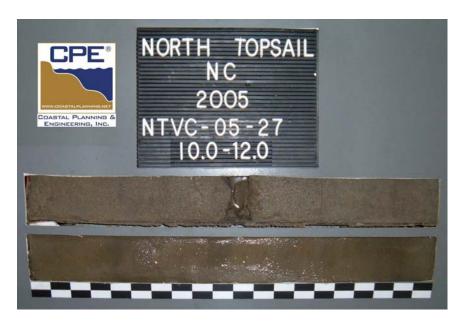


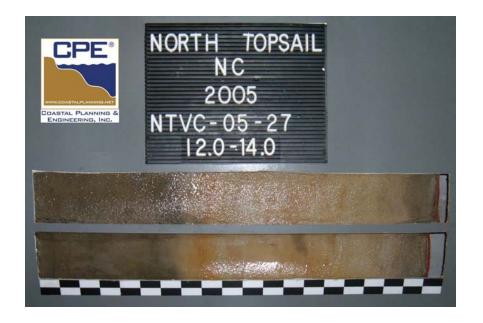


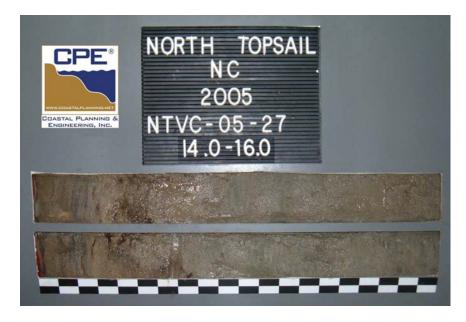








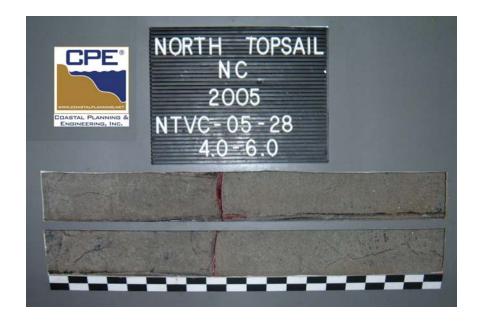


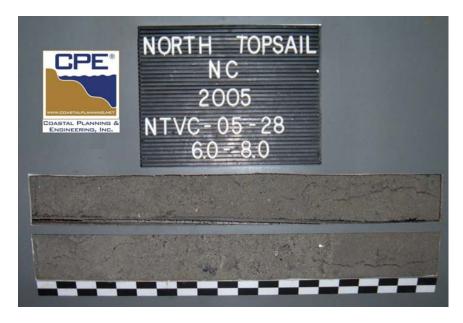




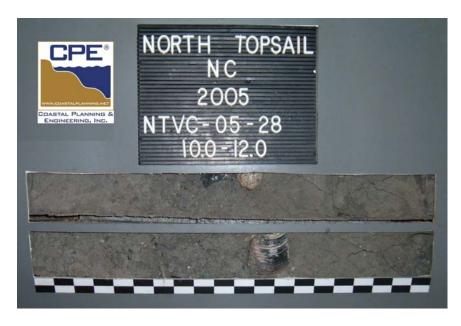






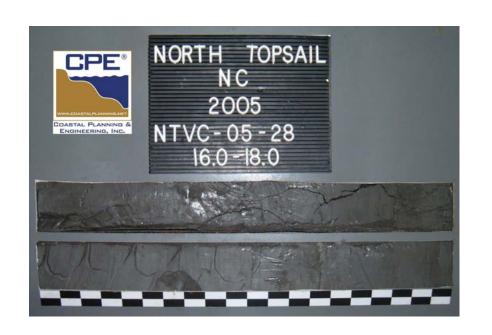




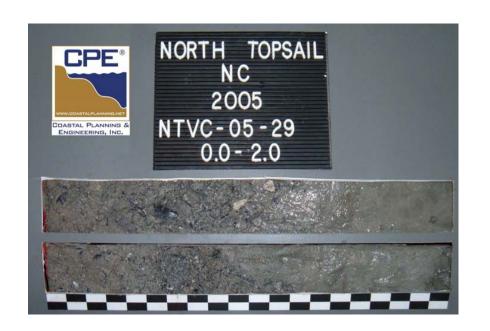


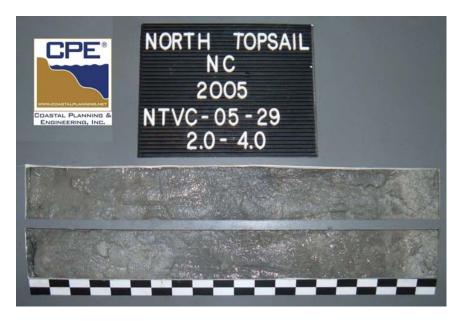


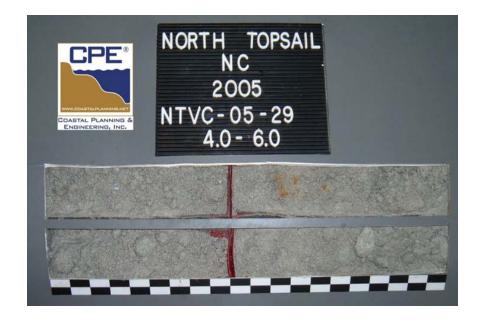






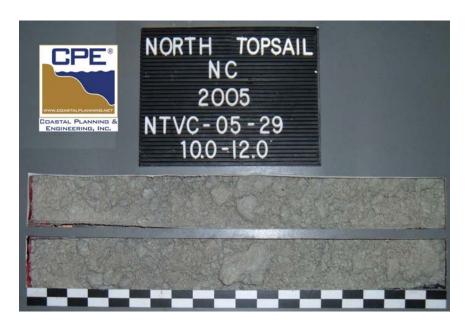




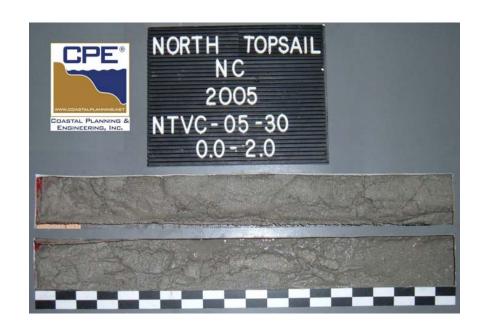










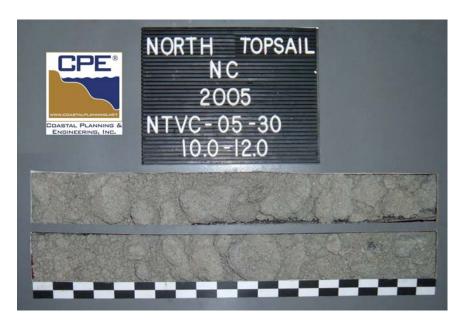














APPENDIX 25 2006 CPE VIBRACORE LOGS OFFSHORE BORROW AREA



Coastal Planning & Engineering 2481 N.W. Boca Raton Blvd. Boca Raton, Florida 33431 Phone # 1-561-391-8102

Legend for Geotechnical Data

(SP), (SM), etc.

Refers to the Army Corps of Engineers Unified Soils Classification System. Class types are defined primarily by grain size, sorting and percent of material passing the 200 sieve. Classification of materials on the core logs is initially based on visual field examinations and are identified on the core logs under the Classification of Materials Description. Final classifications are based on laboratory sieve analyses and are identified on the core logs in the Legend and under Remarks.

Silty, shelly, etc.

The indicated sediment type is present. The estimated percentage indicated by the Unified Soil Classification System descriptive terms selected to describe the sediment.

Definition of descriptive terms

Grain size terms

Clean	Free of silt or clay	Cobbles – above 3" Gravel – 3" sieve to # 4 sieve
Very	To a high degree	Coarse – 3" sieve to "4" sieve
Slightly	To a small degree	Fine $-\frac{3}{4}$ " sieve to # 4 sieve Sand $-\frac{4}{4}$ sieve to # 200 sieve
Isolated	Limited occurrence	Coarse - # 4 sieve to # 10 sieve
Occasional	Infrequently present	Medium - # 10 sieve to # 40 sieve Fine - # 40 sieve to # 200 sieve
Tight	Dense compacted	Fine – (silt or clay) < # 200 sieve

Proportional definition of descriptive terms

Descriptive Term	Range of Proportions
Sandy, gravelly, etc.	35 % to 50 %
Some	20 % to 35 %
Little	10 % to 20 %
Trace	1 % to 10 %
Coarse to fine	All sizes
Coarse to medium	10 % fine
Medium to fine	10 % coarse
Coarse	10 % medium and fine
Medium	10 % coarse and fine
Fine	10 % coarse and medium

Note: Information is after ACOE Atlantic Division Manual # 1110-1-1 titled Engineering and Design Geotechnical Manual for Surface and Subsurface Investigations



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G₩	Ø	Well graded gravels or gravel-sand mixtures, little or no fines	ML		Inorganic silts and very fine sands, rock flour, sandy silts or clayey silts with slight plasticity
GP		Poorly graded gravels or gravel-sand mixtures, w/ little or no fines	МН		Inorganic sitts, micaceous or diatomaceous fine sandy or sitty soild, elastic sitts
GM		Silty gravels, gravel- sand-silt mixtures	OL		Organic sitts and organic sitt-clays of low plasticity
GC		Clayey gravels, gravel- sand-clay mixtures	ОН		Organic clays of medium to high plasticity, organic silts
SW		Well graded sands or gravelly sands, little or no fines	CL		Inorganic clays of low to medium plasticity, gravelly clays, sandy clays, silty clays, lean clays
SP		Poorly graded sands or gravelly sands, little or no fines	СН		Inorganic clays of high plasticity, fat clays
SM		Silty sands, sand-silt mixtures	PT	*******	Peat and other highly organic soils
SC		Clayey sands, sand-clay mixtures	SP-SM		Poorly-graded silty sand
SVV-SM		Well-graded silty sand	SM-SC		Silty clayey sand
GVV-GM		Well-graded silty gravel	ML-CL		Inorganic silty lean clay
GM-GC		Clayey silty gravel			

Note: Information is after ACOE Atlantic Division Manual # 1110-1-1 titled Engineering and Design Geotechnical Manual for Surface and Subsurface Investigations



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Legend for Geotechnical Data

The naming convention used by Coastal Planning and Engineering incorporates key information about the item in the title. The naming format uses the following information:

- Abbreviated area name (two letters that will be used throughout the project)
- Abbreviated data type: vibracore (VC)
- Collection year (yy)
- Identification number
- Sample identification in the case of vibracores
- Composite samples are indicated by COMP following the identification number.
 COMP represents a composite developed to characterize beach compatible material.

Format examples:

- A) NTVC-05-05
- B) NTVC-05-08 S#2
- C) NTVC-05-22 COMP

Example A is a vibracore number 5, collected in the North Topsail area in the year 2005.

Example B refers to sample number 2 taken from vibracore number 8, which was collected in the North Topsail area in 2005.

Example C illustrates a composite developed to characterize beach compatible material in vibracore 22, collected in North Topsail in 2005. This material is intended for use in beach construction.

No specific format is followed for area name abbreviations; however, the name of the area is always given in the appendix title page where the data is presented.

DRILLING LOC	DIVISION	INSTAL	LATION	SHEET 1 OF 1 SHEET
. PROJECT	CPE*	9. SIZE	AND TYP	
North Topsail 2006				SYSTEM/DATUM HORIZONTAL VERTICAL
North Topsail, Nor	th Carolina	١	North Caro	lina State Plane NAD 1983 NAVD 88
2. BORING DESIGNATION	<u>!</u>	11. MA	NUFACTU	RER'S DESIGNATION OF DRILL AUTO HAMMER
NTVC-06-01	X = 2,467,532 Y = 265,638			MANUAL HAMME
B. DRILLING AGENCY	CONTRACTOR FILE NO.	12. TO	TAL SAMP	DISTURBED UNDISTURBED (U
I. NAME OF DRILLER	!	 		
Fred Kaub		-		ER CORE BOXES
. DIRECTION OF BORIN		14. EL	EVATION G	ROUND WATER
VERTICAL	VERTICAL	15. DA	TE BORING	STARTED COMPLETED
INCLINED	! !			07-20-06 08:55 07-20-06 09:0
. THICKNESS OF OVERI	BURDEN 0.0 Ft.	16. EL	EVATION T	OP OF BORING -33.5 Ft.
. DEPTH DRILLED INTO	ROCK 0.0 Ft.	17. TO	TAL RECO	VERY FOR BORING 20.1 Ft.
	20.45	18. SIG	NATURE A	AND TITLE OF INSPECTOR
B. TOTAL DEPTH OF BOR	ING 20.1 Ft.	E	Beau Sutha	ard
			움쁴	
ELEV. DEPTH W	CLASSIFICATION OF MATERIALS Depths and elevations based on measured value	ıes REC.	BOX OR SAMPLE	REMARKS
33.5 0.0			SA SA	
-34.4 0.9 °°°°	SAND, medium grained, quartz, trace silt, gra	ay	1	Sample #1, Depth = 0.5' Mean (mm): 0.31, Phi Sorting: 1.47
	(5Y-5/1), (SW).	\dashv		Shell Hash: 0%, Fines (230): 2.35% (SW)
[[† †				
Γ Ι † <u>!</u> †!				Sample #2, Depth = 3.0'
⊢	SAND, fine grained, little silt, dark gray (10YR-4/1), (SM).		2	Mean (mm): 0.16, Phi Sorting: 0.40
	(1011x -4 /1), (3W).			Shell Hash: 0%, Fines (230): 12.39% (SM)
 				
-38.5 5.0	Crownly CANID fine to accure anning all little ai	:14		Sample #3, Depth = 5.4'
-39.5 6.0	Gravely SAND, fine to coarse grained, little si (1.0"x2.0") rock fragment @ 5.1, (1.0"x1.0")		3	Mean (mm): 2.36, Phi Sorting: 2.59
-39.5	\uparrow rock fragments @ 5.9' and 6.0', gray (5Y-5/1			Shell Hash: 0%, Fines (230): 11.92% (SM)
L	(GM).	-/		
				Sample #4, Depth = 8.0'
<u> </u>			4	Mean (mm): 0.11, Phi Sorting: 0.54
L				Shell Hash: 0%, Fines (230): 20.24% (SM)
<u></u>				
I II+I+I	SAND, fine grained, some silt, (1.0"x1.0")			1
Γ ΙΙΙΙΙ	organic pockets @ 12.8', 13.1', and 13.3', da	rk		
┝	gray (10YR-4/1), (SM).			
[[] 				
Γ			5	Sample #5, Depth = 13.0' Mean (mm): 0.13, Phi Sorting: 0.73
-				Shell Hash: 0%, Fines (230): 23.63% (SM)
Г IIII				
		- 1		
-50.2 16.7	CAND come group little clay little city			Sample #6, Depth = 17.4'
_{51.2} _{17.0}	SAND, some gravel, little clay, little silt, grave from fine grained to (3.0"x2.0"), gray (5Y-5/1		6	Mean (mm): 1.08, Phi Sorting: 3.10
51.3 17.8	∖ (SM).	А		Shell Hash: 0%, Fines (230): 14.04% (SM)
-52.3 18.8	Silty SAND, some gravel, gravel from fine grained to (3.0"x2.0"), gray (5Y-6/1), (SM).	ل		
	SAND, fine grained, quartz, some silt, gray			
-53.6 _ 20.1	(5Y-5/1), (SM).			
	End of Poring			
	End of Boring			
[[
[]		1		
		1		
		- 1		
			<u> </u>	

				Borii	ng Designation INTVC-06-02	
DRILLING	LOG	DIVISION	INSTAL	LATION		EET 1 F 1 SHEETS
PROJECT			9 617	E AND TYPI		. I SHEELS
	ail 2006	S Vibracores				
•					!	RTICAL
North Tops					·	NAVD 88
BORING DESIG		!	11. M	ANUFACTU		HAMMER
NTVC-06-0		X = 2,468,419 Y = 265,461				JAL HAMMER
DRILLING AGE	NCY	CONTRACTOR FILE NO.	12. TC	TAL SAMP	DISTURBED UNDIS	TURBED (UD)
		!			<u> </u>	
NAME OF DRIL	LER		13. TC	TAL NUMB	ER CORE BOXES	
Fred Kaub			14. EL	EVATION G	ROUND WATER	
DIRECTION OF VERTICAL	BORING	DEG. FROM BEARING			STARTED COMP	LETED
INCLINED			15. DA	TE BORING	. .	20-06 10:05
			40		•	20 00 10.00
THICKNESS OF	OVERB	BURDEN 0.0 Ft.	16. EL	EVATION T	OP OF BORING -35.3 Ft.	
DEPTH DRILLE	D INTO	ROCK 0.0 Ft.	17. TC	TAL RECO	very for boring 19.8 Ft.	
		0.0 1 (.	18. SI	GNATURE A	AND TITLE OF INSPECTOR	
TOTAL DEPTH	OF BOR	ing 20.0 Ft.		Beau Sutha	ard	
			<u> </u>		I	
EV. DEPTH	EGEND	CLASSIFICATION OF MATERIALS	s REC	BOX OR SAMPLE	REMARKS	
t) (ft)	ËĞ	Depths and elevations based on measured value	s REC	- ŠŠ	REWINARAS	
5.3 0.0	1-1					
ŀ	 [.]]∦					
	$\ \cdot\ \ $				Sample #1, Depth = 3.0'	
Γ	-			1	Mean (mm): 0.16, Phi Sorting: 0.38	
ļ.	-: <u> </u>				Shell Hash: 0%, Fines (230): 9.13% (S	P-SM)
	 -: }					
-	-: <u> </u>	SAND, fine grained, little silt, trace shell				
	 [• ∦	fragments, (1.5"x1.5") shell fragment @ 1.5',			1	
-	[:]]∦	dark greenish gray (10Y-4/1), (SP-SM).				
L	$\ \cdot\ \ $					
	-: <u> </u>				Sample #2, Depth = 6.0'	
Į.	-: <u> </u>			2	Mean (mm): 0.15, Phi Sorting: 0.36	
	·.				Shell Hash: 0%, Fines (230): 11.64% (SP-SM)
ŀ	 :•					
	 					
4.7 9.4	<u> </u>	CAND for a sure!	_		Sample #3, Depth = 9.7'	
5.5 - 10.2		SAND, fine grained, some silt, trace clay, dark		3	Mean (mm): 0.14, Phi Sorting: 0.65	
3.1 10.8		gray (5Y-4/1), (SM). GRAVEL, little silt, gravel up to (2.0"x2.0"),	1	4	Shell Hash: 1%, Fines (230): 20.48% (SM)
- 10.0	▐ ┋	gray (5Y-6/1), (GM).	Л		Sample #4, Depth = 10.5'	
7.2 11.9	 	SAND, fine grained, some silt, trace clay, trace	-	5	Mean (mm): 2.99, Phi Sorting: 2.97 Shell Hash: 0%, Fines (230): 15.18% (GM)
<u> </u>	 	shell fragments, shell fragments < 0.5", dark	Л		Sample #5, Depth = 11.3'	J.VI)
	 	gray (5Y-4/1), (SM).	J		Mean (mm): 0.17, Phi Sorting: 1.34	
[<u> </u>				Shell Hash: 0%, Fines (230): 31.87% (SM)
-	Ĭ ┼Ĭ┼Ĭ					
	- 					
F	- 				Comple #6 Death = 40.01	
		SAND, fine grained, some silt, trace clay, dark		6	Sample #6, Depth = 16.0' Mean (mm): 0.13, Phi Sorting: 0.71	
t		gray (5Y-4/1), (SM).		"	Shell Hash: 0%, Fines (230): 23.25% (SM)
L					2.1.2 1.2.2 0 /0, 1.1100 (200). 20.20 /0 (,
	$\parallel \parallel $					
-	 					
ŀ						
5.1 19.8	41111	Na Danasa	_		1	
5.3 20.0	\top	No Recovery.	-1			
L		End of Boring				
		End of boiling				
F						
-						
Γ					1	
					1	

MODIFIED FOR THE FLORIDA DEP SAJ FORM 1836 JUN 02

DR	ILLING	LOC	<u> </u>	DIVISION	INS	STAL	LATION	SHEET 1
1. PRO			_		_	617	AND TYPE	OF 1 SHEETS
	North Topsa	il 2006	3 Vil	bracores				SYSTEM/DATUM HORIZONTAL VERTICAL
	North Topsa				10.			lina State Plane NAD 1983 NAVD 88
	ING DESIGN			LOCATION COORDINATES	11			RER'S DESIGNATION OF DRILL AUTO HAMMER
	NTVC-06-03		•	X = 2,474,007 Y = 268,858	• • •		NOI AO I O I	MANUAL HAMMER
	LLING AGEN			CONTRACTOR FILE NO.				DISTURBED UNDISTURBED (UD)
					12.	. то	TAL SAMPI	LES
4. NAN	IE OF DRILL	.ER		·	13.	. то	TAL NUMB	ER CORE BOXES
F	red Kaub			ŀ				
	ECTION OF	BORIN	G	DEG. FROM BEARING VERTICAL	14.	. EL	EVAIION G	ROUND WATER
	VERTICAL INCLINED			VERTICAL	15.	. DA	TE BORING	STARTED COMPLETED
								07-20-06 10:43 07-20-06 10:47
6. THIC	CKNESS OF	OVER	BUR	RDEN 0.0 Ft.	16.	. EL	EVATION T	OP OF BORING -34.4 Ft.
7. DEP	TH DRILLED	INTO	RO	CK 0.0 Ft.	17.	. то	TAL RECOV	VERY FOR BORING 19.9 Ft.
				00.0 54	18.	. SIC	NATURE A	AND TITLE OF INSPECTOR
8. 101	AL DEPTH C)F BOF	ING	20.0 Ft.	_		Beau Sutha	ard
		2					絽	
ELEV. (ft)	DEPTH (ft)	LEGEND	De	CLASSIFICATION OF MATERIALS epths and elevations based on measured values	,	« REC.	BOX OR SAMPLE	REMARKS
-34.4	0.0	_ =					SAS	
-34.7/	0.3	ैं।	٦ ۶	SAND, medium grained, little shell hash, trace	\overline{A}		1	Sample #1, Depth = 0.1' Mean (mm): 0.46, Phi Sorting: 1.63
<u>-35.1</u> /	0.7	0 :	۶-/	silt, gray (5Y-5/1), (SW). SAND, fine grained, little silt, trace shell hash,	们		<u>2</u> 3	Shell Hash: 8%, Fines (230): 4.25% (SW)
-36.1	1.7	. 0.	٦Ľ	dark olive gray (5Y-3/2), (SW-SM).	ᄼ		<u> </u>	Sample #2, Depth = 0.5'
	<u> </u>		1	SAND, fine to medium grained, little shell	Ш			Mean (mm): 0.27, Phi Sorting: 1.80
	-	[::::	1	fragments, little shell hash, trace rock fragments, trace silt, shell fragments up to	П			Shell Hash: 3%, Fines (230): 9.79% (SW-SM) Sample #3, Depth = 1.1'
		 	1.	(3.0"x2.0"); (3.0"x2.0") rock fragment @ 1.2',	П		4	Mean (mm): 2.64, Phi Sorting: 2.97
	-			ólive gray (5Y-4/2), (GW).	┚┃			Shell Hash: 8%, Fines (230): 4.05% (GW)
	L	· · · ·						Sample #4, Depth = 3.0' Mean (mm): 0.19, Phi Sorting: 0.45
		$[\cdot \cdot \cdot]$						Shell Hash: 0%, Fines (230): 3.98% (SP)
	}	 		SAND, fine grained, trace silt, dark gray				
		·.::		(5Y-4/1), (SP).				
	Γ	· · · · ·						Sample #5, Depth = 8.0'
	-						5	Mean (mm): 0.18, Phi Sorting: 0.33
		$ \cdot $						Shell Hash: 0%, Fines (230): 2.65% (SP)
	<u> </u>	· · · ·						
	<u></u>	 :-:::						
-45.0	10.6	· · · ·			_			
	-	:.						
	L	[:-]]						
		 .:						0
	ŀ	 :.		SAND, fine grained, trace silt, gray (5Y-5/1),			6	Sample #6, Depth = 12.0' Mean (mm): 0.17, Phi Sorting: 0.37
	L	 [.		(SP-SM).	ļ			Shell Hash: 0%, Fines (230): 7.39% (SP-SM)
	Γ	[::][
	F	 -:						
-50.3	15.9	<u> </u>			_ [
					\sqcap]
	 	[]		CAND fine grained little all trace and				
][[[SAND, fine grained, little silt, trace rock fragments, trace shell hash, (2.0"x2.0") rock	ļ		_	Sample #7, Depth = 19.0'
	ŀ	$\ \ \ \ \ \ $		fragments @ 17.0' and 17.5', dark gray			7	Mean (mm): 0.12, Phi Sorting: 0.60 Shell Hash: 0%, Fines (230): 19.56% (SM)
	L	[+]		(5Y-4/1), (SM).				Shell Flash. 670, Filles (200). 13.0070 (GIVI)
-54.3	19.9	[[]]						
-54.3 -54.4/	20.0/	++++	$\overline{}$	No Recovery.	爿			1
				•	_			
	Γ			End of Boring				
	L							
	F							
					ļ			

DRILLING LO	G DIVIS	ION		INSTAL	LATION		SHEET 1 OF 1 SHEETS
I. PROJECT			CPE*	9. SIZ	E AND TYP	E OF BIT 3.0 ln.	1 5 5
North Topsail 20	06 Vibracore	es	CPE			SYSTEM/DATUM HORIZONT	AL VERTICAL
North Topsail, N	orth Carolina	1				olina State Plane NAD 19	:
BORING DESIGNATI		LOCATION COORE	DINATES			RER'S DESIGNATION OF DRILL	AUTO HAMMER
NTVC-06-04		X = 2,474,898				NEW O DEGICALION OF DAILE	MANUAL HAMMER
B. DRILLING AGENCY		· · · · · · · · · · · · · · · · · · ·	RACTOR FILE NO.			DISTURBED	UNDISTURBED (UD)
				12. TO	TAL SAMP	LES	
. NAME OF DRILLER		<u> </u>		40 70		ER CORE BOXES	<u>;</u>
Fred Kaub				13. 10	TAL NUMB	SER CURE BUXES	
. DIRECTION OF BORI	NG	DEG. FROM	BEARING	14. EL	EVATION 0	ROUND WATER	
⊠ VERTICAL		VERTICAL		45 D4	TE BORING	STARTED	COMPLETED
INCLINED				15. DA	I E BURING	07-20-06 11:5	07-20-06 11:57
. THICKNESS OF OVE	RBURDEN	0.0 Ft.		16. EL	EVATION 1	TOP OF BORING -38.0 Ft.	
				47 70	TAL DEGG		
. DEPTH DRILLED INT	ROCK	0.0 Ft.				VERY FOR BORING 20.2 Ft.	
. TOTAL DEPTH OF BO	DING 2	0.2 Ft.				AND TITLE OF INSPECTOR	
. TOTAL DEPTH OF BO	KING Z	.U.Z Fl.			Beau Suth	ard	
9					움끸		
LEV. DEPTH W		CLASSIFICATION OF nd elevations based	F MATERIALS d on measured value	s REC	BOX OR SAMPLE	REMARK	(S
38.0 0.0					SA		
1 11			ilt, trace shell hash,		1	Sample #1, Depth = 0.3'	
38.9 0.9	(2.0"x.5	0") organic pocket	t @ 0.1'; (1.0"x1.0")		<u> </u>	Mean (mm): 0.21, Phi Sortin	
[\ organ	nic pocket @ 0.7', d	ark gray (5Y-4/1),	/ [Shell Hash: 0%, Fines (230)	: 16.18% (SM)
	CVV	(SM). ID, fine grained, litt	le silt trace rock	⊿			
I			sh, (3.0"x4.0") rock			Sample #2, Depth = 3.0'	
⊢ li∤i			") rock fragments @)	2	Mean (mm): 0.33, Phi Sortin	
	2.2',	3.5', 4.6', and 4.7';	; (0.5"x0.5") rock			Shell Hash: 0%, Fines (230)	: 12.56% (SM)
	fragm	ent @ 4.7', olive gr	ay (5Y-5/2), (SM).				
42.9 4.9				_			
[·,†·]						
 '.†'	ļ						
	ļļ.					Sample #3, Depth = 7.0'	
 ::i::i::	 				3	Mean (mm): 0.19, Phi Sortin	a: 0.56
	t				"	Shell Hash: 0%, Fines (230)	
 . :↓.	İ						,
L	İ						
[]: <u>}</u> -	SAND,	fine grained, quart	z, trace shell hash,				
·.†·	trac	e silt, dark gray (5Y	7-4/1), (SP-SM).				
	ļ						
- F ∷i:	 						
	†				4	Sample #4, Depth = 12.0' Mean (mm): 0.16, Phi Sortin	a: 0.51
	†I				"	Shell Hash: 0%, Fines (230)	
[[.:].	Ì					311011 1 1d311. 0 /0, 1 11103 (230)	1270 (01 0101)
[·]·]						
52.2 - 14.2	<u> </u>						
		<u> </u>	<u> </u>				
⊢ liti							
				.		Sample #5, Depth = 16.0'	
L[† <u></u> †			, little silt, trace she	'	5	Mean (mm): 0.16, Phi Sortin	
<u> </u>		hash, olive gray (5)	1-4/2), (SIVI).			Shell Hash: 0%, Fines (230)	
	1						
 							
57.5 19.5						Sample #6, Depth = 19.8'	
1 11+1	SAN	ND, fine grained, litt	tle silt, dark gray		6	Mean (mm): 0.17, Phi Sortin	a: 0.89
58.2 - 20.2	Ή	(5Y-4/1), (S		\mathcal{A}	\vdash	Shell Hash: 1%, Fines (230)	
<u> </u>		F., d4.5	rina			(200)	(/
		End of Bo	nng				
}							
}							
† [

DRI	ILLING	LO	G		INSTA	LLATION	ig Deolghation 141		SHEET 1 OF 1 SHEETS
1. PRO	JECT		•	CPE*	9. SI	ZE AND TYPI	OF BIT 3.0 ln.		,
١	North Topsa	il 200	6 Vibracores	LPE				RIZONTAL	VERTICAL
١	North Topsa	il. Nor	rth Carolina		0			IAD 1983	NAVD 88
	ING DESIGN			INATES	11. M		RER'S DESIGNATION OF		AUTO HAMMER
	NTVC-06-05			Y = 261,992		AITOI AO I O	TER O DEGICALATION OF I		MANUAL HAMMER
	LLING AGEN		<u></u>	ACTOR FILE NO.			DISTURBE	D :	UNDISTURBED (UD)
					12. T	OTAL SAMPI	LES	į	`
4. NAN	IE OF DRILL	ER	•		13. T	OTAL NUMB	ER CORE BOXES		
F	red Kaub			ł					
	ECTION OF E	BORIN		BEARING	14. E	LEVATION G	ROUND WATER		
_	VERTICAL		VERTICAL	<u> </u>	15. D	ATE BORING	STARTED	!	COMPLETED
	INCLINED		<u>:</u>	<u>!</u>			07-20-0	06 12:15	07-20-06 12:21
6. THI	CKNESS OF	OVER	BURDEN 0.0 Ft.		16. E	LEVATION T	OP OF BORING -38.	7 Ft.	
7. DEP	TH DRILLED	INTO	ROCK 0.0 Ft.		17. T	OTAL RECO	/ERY FOR BORING	20.2 Ft.	
			0.011.		18. S	IGNATURE A	ND TITLE OF INSPECTO	R	
8. ТОТ	AL DEPTH C	F BOF	RING 20.2 Ft.			Beau Sutha	ard		
		۵		•		MП			
ELEV.	DEPTH (ft)	GEND	CLASSIFICATION OF		s REC	BOX OR		REMARKS	
(ft) -38.7	0.0	LEG	Depths and elevations based	on measured value	S KE	SAN			
-30.1	0.0	1111			+	 	Sample #1, Depth = () 6'	
	L	[[SAND, fine grained, little sil fining downward, gray (1	Mean (mm): 0.19, Ph	i Sorting: 0.	
-40.3	1.6	<u> </u>	illing downward, gray ((O 1 - O/ 1), (OIVI).	_		Shell Hash: 0%, Fine	s (230): 15.	11% (SM)
	ŀ	 	OAND 6	214 - 4		1	0	. 01	ŀ
		 	SAND, fine grained, little fragments, trace shell hash,			2	Sample #2, Depth = 3 Mean (mm): 0.24, Ph		60
	Ī	 [to (0.75"x0.75"), gray (Shell Hash: 4%, Fine		
-42.9	- 4.2	 	,,,,,,,,	- // (- /				- ()	,
	-	 -: [
	L	 :.							
		 [::]]}					Sample #3, Depth = 8	י חי	
	-	 .: †	SAND, fine grained, trace sh			3	Mean (mm): 0.16, Ph		43
		 -	dark gray (5Y-4/1),	(SP-SM).			Shell Hash: 0%, Fine		
	<u> </u>	 -: [
	_	[:]]}							
40.7	400	[[:]]}							
-48.7	10.0	1 - 1 1 +					1		
		 [
	Ī	 							
	-	 [
		11111				1			
	†	11+1+	SAND, fine grained, little sil	t, trace shell hash.			Sample #4, Depth = 1		40
	<u> </u>	 	dark gray (5Y-4/1			4	Mean (mm): 0.15, Ph Shell Hash: 0%, Fine		
		 					211011 1 1d311. 0 /0, 1 1110	. (<u></u>). 17.	,, (5)
	⊢	 							
		 [
	Γ	 							
-55.7	17.0	 	CAND fine to me allines	ained come ===!	_	<u> </u>			
		[SAND, fine to medium gra fragments, some silt, tra	aneu, some rock ace shell hash		1 _	Sample #5, Depth = 1		
	†	11+11	(2.0"x1.5") rock fragment @			5	Mean (mm): 0.45, Ph Shell Hash: 0%, Fine		
-57.6	18.9	 	(5Y-4/1), (Si	M).	_				12 /0 (SIVI)
		[]]	SAND, fine grained, som fragments, trace shell hash			6	Sample #6, Depth = 1 Mean (mm): 0.15, Ph		.23
-58.9	- 20.2	<u> </u>	fragment @ 19.7', olive gra		٦	<u> </u>	Shell Hash: 0%, Fine		
					<u> </u>			•	•
	T .		End of Bori	ng		1			
	<u> </u>					1			
						1			
	 					1			
	L					1			
	Γ								
						1			

ייפת	LING	100	DIVI	SION		l I	NSTAI	LATION	ig Designation 141 ve de de	SHEET 1
1. PROJE		LUC	<u>' </u>					= AND =	2.0 Fe	OF 1 SHEETS
	rth Topsa	il 2006	Vibraco	res	C			E AND TYPI		
	rth Topsa								SYSTEM/DATUM HORIZONTAL	VERTICAL
2. BORIN		•		_	N COORDINATES	1 A			lina State Plane NAD 1983 RER'S DESIGNATION OF DRILL	NAVD 88
	VC-06-06		•	:	74,837 Y = 267,9			ANOI AOI OI		MANUAL HAMMER
3. DRILLI				: / =,	CONTRACTOR FILE	E NO.			DISTURBED	INDISTURBED (UD)
						1	2. TO	OTAL SAMPI	LES	
4. NAME	OF DRILL	ER				1	3. TO	TAL NUMB	ER CORE BOXES	
	d Kaub					1	4. EI	EVATION G	ROUND WATER	
5. DIREC'	TION OF E RTICAL	BORING	•	DEG. FR	OM BEARING	-				OMPLETED
_	CLINED				į	1	5. D	ATE BORING	07-20-06 13:29	07-20-06 13:35
6. THICK	NESS OF	OVERE	URDEN	0.0 Ft.		1	6. EI	EVATION T	OP OF BORING -35.7 Ft.	
						- 1	7 T	TAL PECOV	VERY FOR BORING 20 Ft.	
7. DEPTH	DRILLED	INTO	ROCK	0.0 Ft.		<u> </u>			AND TITLE OF INSPECTOR	
B. TOTAL	DEPTH O	F BOR	ING	20.0 Ft.				Beau Sutha		
							Т		<u> </u>	
	DEPTH	EGEND	B . 45		TION OF MATERIALS		% REC	BOX OR SAMPLE	REMARKS	
(ft) -35.7	(ft) 0.0	LEG	Depths	and elevation	ns based on measure	ed values	REC	SAN .		
-33.7	0.0						+			
L		Į.⁺¦∤∦								L
		ŀ∷⊹∭	SAND	, fine grained	d, trace shell hash, t	race silt.			Sample #1, Depth = 1.4'	_
ŀ		<u> :- </u>	J .D,		Y-6/1), (SP-SM).	,		1	Mean (mm): 0.19, Phi Sorting: 0.4 Shell Hash: 0%, Fines (230): 5.72	
L		<u> </u> ::]]							Sitell Flash. 070, Filles (230). 3.72	70 (SI -SIVI)
-39.3	3.6	<u>. </u>]	
┢		ំ ។ 📗								
		° -\$	SAND.	, fine grained	d, trace shell hash, to	race silt,			Sample #2, Depth = 4.5'	10
Γ		֓֞֞֓֓֓֓֓֓֓֓֓֓֓֓֓֓֓֓֓֓֓֓֓֓֓֓֓֓֓֓֓֓֓֓֓֓			7-5/1), (SW-SM).	•		2	Mean (mm): 0.22, Phi Sorting: 1.0 Shell Hash: 0%, Fines (230): 5.66	
-42.1	6.4	°								,, (011 0111)
72.1	0.4	<u> </u>					1		1	
Ī		-:++ <u> </u>								
ŀ		l:.††								
		 [::]	SAND	. fine grained	d, little rock fragmen	ts. trace			Sample #3, Depth = 8.0'	
		┠╢┼┼	shell	hash, trace	silt, rock fragments	< 0.5",		3	Mean (mm): 0.16, Phi Sorting: 0.4	7
L		l·.		gray (5)	Y-5/1), (SP-SM).				Shell Hash: 0%, Fines (230): 9.36	% (SP-SM)
		:·								
T I		┠╢┼┼								
-47.7	12.0	<u>┞╸┤┼║</u> ┠┐╁╎╁					4			
		<u> </u>								
ľ		╏┼┆┼┆┃								
-		Ĭ ┼Ĭ┼Ĭ Ĭ	SA	ND, fine grai	ined, some silt, little	rock			Sample #4, Depth = 15.0'	_
		<u> </u>	fragm		hell hash, rock fragr ıy (5Y-5/1), (SM).	ments <		4	Mean (mm): 0.19, Phi Sorting: 1.3 Shell Hash: 4%, Fines (230): 20.8	
F		╿ ┼┼┼┨		o.o , gra	iy (31-3/1), (31VI).				Griefi Flash. 470, Filles (230). 20.0	5 /0 (SIVI)
-		┃ ┼┇┼┇┃								
-52.6	16.9	<u> </u>					4]	
ſ		IH##I								ļ
ŀ		<u> </u>	SAND	, fine graine	d, little rock fragmer	nts, little			Sample #5, Depth = 19.0'	_
		<u> </u>			silt, rock fragments irk gray (5Y-4/1), (S			5	Mean (mm): 0.12, Phi Sorting: 0.6 Shell Hash: 0%, Fines (230): 18.3	
		I∤‡∤‡I	(2	, ua	iin giay (51-4/1), (5	141).			Grieff Flash. 0 /0, Fliftes (230). 16.3	0 /0 (OIVI)
-55.7	20.0	┞╵╵╵					+		1	
				Er	nd of Boring					
t										
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Ļ										
									1	
1							1	I	<u> </u>	

DBILL	INC		DIVISION		INS	TALL	ATION	ig Designa	auon mive	<i>5</i> -00-0	SHEET 1	
DRILLI		LUC			<u> </u>				0.01-		OF 1 SHEET	'S
		1 2006	Vibracores	CPE*			AND TYPI		3.0 ln.	NTC:	VEDTICAL	
	•		h Carolina		10.			SYSTEM/DAT lina State Pla	!	1983	VERTICAL NAVD 88	
2. BORING D	_ •	-		OORDINATES	11.				IATION OF DRIL		AUTO HAMMER	—
NTVC	-06-07			257 Y = 268,303							MANUAL HAMME	≣R
3. DRILLING	AGEN	CY	C	ONTRACTOR FILE NO.	12.	тот	TAL SAMPI	LES	DISTURBED		UNDISTURBED (U	(D)
4. NAME OF		ER			13.	тот	TAL NUMB	ER CORE BOX	ŒS			
Fred b		ORIN	DEG. FROM	BEARING	14.	ELE	VATION G	ROUND WAT	ER			
VERT	ICAL		VERTICAL		15.	DAT	E BORING	;	STARTED 07-20-06		COMPLETED 07-20-06 14:4	16
6. THICKNE	SS OF (OVERE	BURDEN 0.0 Ft.	•	16.	ELE	VATION T	OP OF BORIN			0. 20 00	
7. DEPTH DI	RILLED	INTO	ROCK 0.0 Ft.		17.	тот	TAL RECO	ERY FOR BO	RING 19.9	Ft.		
B. TOTAL DE	EDTH O	E ROP	ING 20.0 Ft.		18.			ND TITLE OF	INSPECTOR			
J. 101AL D.			20.011.		Ц,	<u>В</u>	eau Sutha	ard T				
	PTH	LEGEND		ON OF MATERIALS based on measured value	es R	% REC.	BOX OR SAMPLE		REM	ARKS		
00.1	,	ا ا ا		ttle rock fragments, trace	e	一			I, Depth = 1.0'			_
-36.6	1.5			t, rock fragments up to ay (5Y-4/1), (SW-SM).			1		n): 0.51, Phi Sc n: 0%, Fines (2			
L		ווויִי	SAND, fine grained, tra	ace rock fragments, trac	e	ŀ	2	Sample #2	2, Depth = 2.0	,	,	
-37.6 -38.1	2.5 3.0			t, rock fragments up to (5Y-5/1), (SP-SM).	А	ŀ	3		n): 0.22, Phi Sc n: 0%, Fines (2			
-30.1	3.0		SAND, fine grained, tra	ace rock fragments, trac	æ /	ŀ		Sample #3	3, Depth = 2.7	,	, ,	
ļ.		-: 		t, rock fragments up to (5Y-5/1), (SP-SM).	/1				n): 0.21, Phi Sc n: 0%, Fines (2			
			(1.0 X1.0), gray	(01-5/1), (01-0W).	- '			Oricii riasi	1. 0 /0, 1 11103 (2	00). 0.00	370 (GI -GIVI)	
ŀ		·:						0	1 D 4 - 7 0			
L		<u> </u>		ace shell hash, trace sill	t,		4		1, Depth = 7.0' n): 0.17, Phi Sc	rting: 0.	54	
		-: 	olive gray (5)	7-4/2), (SP-SM).					n: 0%, Fines (2			
-		[:·]										
L		.: <u> </u>										
		·.]										
-45.7	10.6	[::]]∦										
-		1111		ome rock fragments, littl	е	ı	5		5, Depth = 11.0 n): 0.22, Phi Sc		25	
-46.8	11.7		Siit, rock fragments	up to (1.0"x1.0"), gray 1), (SM).	\bot	ŀ			n: 0%, Fines (2			
Γ		֓֓֓֓֓֓֓֓֓֓֓֓֓֓֓֓֓֓֓֓֓֓֓֓֓֓֓֓֓֓֓֓֓֓֓֓֓		ome rock fragments, littl	_ e			Sample #6	6, Depth = 13.0	ı		
ŀ		.°. 	silt, trace shell hash	, rock fragments up to	Ĩ		6	Mean (mn	n): 1.62, Phi Sc	rting: 2.		
40.5	44.		(2.0"x2.0"), gray	(5Y-6/1), (SW-SM).				Shell Hash	n: 1%, Fines (2	კ0): 10.1	/5% (SW-SM)	
-49.5	14.4				\dashv	ŀ		1				
F			SAND fine grains	d, little silt, trace rock				Sample #7	7, Depth = 16.0	ı		
-		$ \uparrow\downarrow\uparrow\downarrow $	fragments, trace shell	hash, rock fragments up	p		7	Mean (mn	n): 0.16, Phi Sc	rting: 0.8		
			to (0.5"x0.5"), dark	gray (5Y-4/1), (SM).				Shell Hash	n: 1%, Fines (2	30): 14.	52% (SM)	
-52.6	17.5				_	ļ		1				
ŀ		۾ _{۾ ۾}	SAND, fine grained so	ome rock fragments, littl	_e							
L			silt, rock fragments up	to (3.0"x2.0"), dark gra								
-55.0	19.9	०००	(5Y-4/	1), (SW).								
	20.0/		\ No Re	ecovery.	刁							
ŀ			Fnd c	of Boring								
			Lild C									
ŀ												
ŀ												
ľ												

1. PROJECT North Topsail 2006 Vibracores North Topsail, North Carolina 2. BORING DESIGNATION NTVC-06-08 X = 2,472,987 CONTRACTOR FILE NO. 3. DRILLING AGENCY 4. NAME OF DRILLER Fred Kaub 5. DIRECTION OF BORING VERTICAL 9. SIZE AND TYPE OF BIT 3.0 In. 10. COORDINATE SYSTEM/DATUM NORTH Carolina State Plane NAD 1983 NAVD 88 11. MANUFACTURER'S DESIGNATION OF DRILL AUTO HAMMER MANUAL HAMME 12. TOTAL SAMPLES 13. TOTAL NUMBER CORE BOXES 14. ELEVATION GROUND WATER 15. DATE BORING STARTED COMPLETED	DRILLIN	G LOG	DIVISION		INSTAL		ig Designation INTVC-00-	SHEET 1 OF 1 SHEETS
North Topsail, North Carolina North			l	CDC*	9. SIZI	AND TYPE	E OF BIT 3.0 ln.	OF 1 SHEETS
2. BORING DESIGNATION LOCATION COORDINATES 11. MANUFACTURER'S DESIGNATION OF DRILL AUTO HAMMER MANUAL HAMME MANUA		•			10. CO	ORDINATE	SYSTEM/DATUM HORIZONTAL	!
12. TOTAL SAMPLES DISTURBED UNDISTURBED UNDISTURBE		•	·	DINATES				
4. NAME OF DRILLER Fred Kaub 5. DIRECTION OF BORING □ VERTICAL □ INCLINED 6. THICKNESS OF OVERBURDEN 7. DEPTH DRILLED INTO ROCK 8. TOTAL DEPTH OF BORING □ 13.5 Ft. 14. ELEVATION TOP OF BORING □ 7-20-06 15:20 □ 77-20-06 15					ļ			MANUAL HAMMER
S. DIRECTION OF BORING VERTICAL VERTI	3. DRILLING A	GENCY	CONTI	RACTOR FILE NO.	12. TO	TAL SAMPI	DISTURBED	UNDISTURBED (UD)
1.5 ELEVATION OF BORING 1.5 COMPLETED 1.5 DATE BORING					13. TO	TAL NUMB	ER CORE BOXES	
Vertical Inclined		-	DEG. FROM	REARING	14. EL	EVATION G	ROUND WATER	
7. DEPTH DRILLED INTO ROCK 0.0 Ft. 8. TOTAL DEPTH OF BORING 13.5 Ft. ELEV. DEPTH (ft) 2	⊠ VERTICA	AL	VERTICAL	JEARING	15. DA	TE BORING	: !	!
8. TOTAL DEPTH OF BORING 13.5 Ft. CLASSIFICATION OF MATERIALS Depths and elevations based on measured values 33.3 3.4 1.1 SAND, fine grained, little clay, little silt, trace shell hash, trace silt, rock fragments, trace shell hash, trace silt, silt distributed in intermittent lamina, gray (5Y-5/1), (SM-SM). SAND, fine grained, trace rock fragments, trace shell hash, trace silt, silt distributed in intermittent lamina, gray (5Y-5/1), (SM-SM). 10. SAND, fine grained, trace rock fragments, trace shell hash, trace silt, silt distributed in intermittent lamina, gray (5Y-5/1), (SP-SM). 11. Sample #1, Depth = 0.6' Mean (mm): 0.26, Phi Sorting: 1.43 Shell Hash: 2%, Fines (230): 15.54% (SM-SC) Sample #2, Depth = 2.0' Mean (mm): 0.29, Phi Sorting: 1.33 Shell Hash: 0%, Fines (230): 7.94% (SW-SM) SAND, fine grained, trace rock fragments, trace shell hash, trace silt, silt distributed in intermittent lamina, gray (5Y-5/1), (SP-SM). SAND, fine grained, little silt, trace rock fragments, trace shell hash, (3.0"x3.0") rock fragments, trace shell hash, (3.0"x3.0") rock fragments (230): 7.64% (SP-SM) SAND, fine grained, little silt, trace rock fragments, trace shell hash, (3.0"x3.0") rock fragments, trace shell hash, (3.0"x3.0") rock fragments, trace shell hash, (3.0"x3.0") rock fragments, trace shell hash, (3.0"x3.0") rock fragments, trace shell hash, (3.0"x3.0") rock fragments, trace shell hash, (3.0"x3.0") rock fragments, trace shell hash, (3.0"x3.0") rock fragments, trace shell hash, (3.0"x3.0") rock fragments, trace shell hash, (3.0"x3.0") rock fragments, trace shell hash, (3.0"x3.0") rock fragments, trace shell hash, (3.0"x3.0") rock fragments, trace shell hash, (3.0"x3.0") rock fragments, trace shell hash, (3.0"x3.0") rock fragments, trace shell hash, (3.0"x3.0") rock fragments, trace shell hash, (3.0"x3.0") rock fragments, trace shell hash, (3.0"x3.0") rock fragments, trace shell hash, (3.0"x3.0") rock fragments, trace shell hash, (3.0"x3.0") rock fragments, trace shell hash, (3.0"x3.0") rock fragments, trace shel	6. THICKNESS	OF OVERBU	RDEN 0.0 Ft.		16. EL	EVATION T	OP OF BORING -33.3 Ft.	
8. TOTAL DEPTH OF BORING 13.5 Ft. ELEV. (ft)	7 DERTH DRIL	I ED INTO BO	0 0 Et		17. TO	TAL RECOV	VERY FOR BORING 13.5 Ft.	
CLASSIFICATION OF MATERIALS Depths and elevations based on measured values of shell hash, black (5Y-2.5/1), (SM-SC). SAND, fine grained, little clay, little silt, trace shell hash, trace silt, rock fragments, trace shell hash, trace silt, silt distributed in intermittent lamina, gray (5Y-5/1), (SP-SM). SAND, fine grained, trace rock fragments, trace shell hash, trace silt, silt distributed in intermittent lamina, gray (5Y-5/1), (SP-SM). SAND, fine grained, trace rock fragments, trace shell hash, trace silt, silt distributed in intermittent lamina, gray (5Y-5/1), (SP-SM). SAND, fine grained, trace rock fragments, trace shell hash, trace silt, silt distributed in intermittent lamina, gray (5Y-5/1), (SP-SM). SAND, fine grained, trace rock fragments, trace shell hash, trace rock fragments, trace shell hash, trace shell hash, trace rock fragments, trace shell hash, trace shell hash, trace rock fragments, trace shell hash trace rock fragments, trace shell hash trace rock fragments, trace shell hash trace rock fragments, trace shell hash trace rock fragments, trace shell hash trace rock fragments, trace shell hash trace rock fragments, trace shell hash trace rock fragments, trace shell hash trace rock fragments, trace shell hash trace rock fragments, trace rock shell hash trace roc	7. DEPTH DRIL	LED IN 10 KC	U.U Fl.		18. SIG	NATURE A		
SAND, fine grained, little clay, little silt, trace shell hash, black (5Y-2.5/1), (SM-SC). SAND, fine grained, trace rock fragments, trace shell hash, trace silt, rock fragments up to (2.0"x2.0"), gray (5Y-5/1), (SW-SM). SAND, fine grained, trace rock fragments up to (2.0"x2.0"), gray (5Y-5/1), (SW-SM). SAND, fine grained, trace rock fragments up to (2.0"x2.0"), gray (5Y-5/1), (SW-SM). SAND, fine grained, trace rock fragments, trace shell hash, trace silt, silt distributed in intermittent lamina, gray (5Y-5/1), (SP-SM). SAND, fine grained, trace rock fragments, trace shell hash, trace silt, silt distributed in intermittent lamina, gray (5Y-5/1), (SP-SM). SAND, fine grained, trace rock fragments, trace shell hash. (3.0"x3.0") rock fragments, trace shell hash, (3.0"x3.0") rock fragment @ 13.3"; silt distributed in intermittent lamina, gray (5Y-5/1), (SM). SAND, fine grained, little silt, trace rock fragments, trace shell hash, (3.0"x3.0") rock fragment @ 13.3"; silt distributed in intermittent lamina, gray (5Y-5/1), (SM).	8. TOTAL DEPT	TH OF BORIN	IG 13.5 Ft.		6	Beau Sutha	ard	
SAND, fine grained, little clay, little silt, trace shell hash, black (5Y-2.5/1), (SM-SC). SAND, fine grained, trace rock fragments, trace shell hash, trace silt, rock fragments up to (2.0"x2.0"), gray (5Y-5/1), (SW-SM). SAND, fine grained, trace rock fragments up to (2.0"x2.0"), gray (5Y-5/1), (SW-SM). SAND, fine grained, trace rock fragments, trace shell hash, trace silt, silt distributed in intermittent lamina, gray (5Y-5/1), (SP-SM). SAND, fine grained, trace rock fragments, trace shell hash, trace silt, silt distributed in intermittent lamina, gray (5Y-5/1), (SP-SM). SAND, fine grained, trace rock fragments, trace shell hash, (3.0"x3.0") rock fragments, trace shell hash, (3.0"x3.0") rock fragments, trace shell hash, (3.0"x3.0") rock fragment @ 13.3"; silt distributed in intermittent lamina, gray (5Y-5/1), (SM). SAND, fine grained, little silt, trace rock fragments, trace shell hash, (3.0"x3.0") rock fragments, trace s	(ft) (ft)	EGEND			es REC.	30X OR	REMARKS	
SAND, fine grained, trace rock fragments, trace shell hash, trace silt, rock fragments, trace shell hash, trace silt, rock fragments, trace shell hash, trace silt, rock fragments, trace shell hash, trace silt, silt distributed in intermittent lamina, gray (5Y-5/1), (SP-SM). SAND, fine grained, trace rock fragments, trace shell hash, trace silt, silt distributed in intermittent lamina, gray (5Y-5/1), (SP-SM). SAND, fine grained, trace rock fragments, trace shell hash, trace silt, silt distributed in intermittent lamina, gray (5Y-5/1), (SP-SM). SAND, fine grained, trace rock fragments, trace shell hash, trace silt, silt distributed in intermittent lamina, gray (5Y-5/1), (SP-SM). SAND, fine grained, trace rock fragments, trace shell hash, (3.0"x3.0") rock fragments, trace shell hash, (3.0"x3.0") rock fragments, trace shell hash, (3.0"x3.0") rock fragment @ 13.3", silt distributed in intermittent lamina, gray (5Y-5/1), (SM).					+			1.43
3 Shell Hash: 0%, Fines (230): 7.94% (SW-SM) Shell Hash: 0%, Fines (230): 7.94% (SW-SM) Shell Hash: 0%, Fines (230): 7.94% (SW-SM) Shell Hash: 0%, Fines (230): 7.94% (SW-SM) Shell Hash: 0%, Fines (230): 7.94% (SW-SM) Shell Hash: 0%, Fines (230): 7.94% (SW-SM) Sample #3, Depth = 6.0' Mean (mm): 0.19, Phi Sorting: 0.48 Shell Hash: 0%, Fines (230): 7.64% (SP-SM) SAND, fine grained, little silt, trace rock fragments, trace shell hash, (3.0"x3.0") rock fragments, trace shell hash, (3.0"x3.0") rock fragment @ 13.3'; silt distributed in intermittent lamina, gray (5Y-5/1), (SM).	-34.4 _ 1	0" [1]	SAND, fine grained, trace r	rock fragments, trac	e	2	Shell Hash: 2%, Fines (230): 15 Sample #2, Depth = 2.0'	5.54% (SM-SC)
shell hash, trace silt, silt distributed in intermittent lamina, gray (5Y-5/1), (SP-SM). SAND, fine grained, little silt, trace rock fragments, trace shell hash, (3.0"x3.0") rock fragment @ 13.3'; silt distributed in intermittent lamina, gray (5Y-5/1), (SM). SAND, fine grained, little silt, trace rock fragments, trace shell hash, (3.0"x3.0") rock fragment @ 13.3'; silt distributed in intermittent lamina, gray (5Y-5/1), (SM).	-36.1 2	.8			_			
fragments, trace shell hash, (3.0"x3.0") rock fragment @ 13.3'; silt distributed in intermittent lamina, gray (5Y-5/1), (SM). 4 Salliple #4, Depth = 11.0 Mean (mm): 0.21, Phi Sorting: 0.58 Shell Hash: 1%, Fines (230): 15.68% (SM)	-41.8 8		shell hash, trace silt, s	silt distributed in	ee	3	Mean (mm): 0.19, Phi Sorting: (- 0.48 64% (SP-SM) - -
	-46.8 13		fragments, trace shell has fragment @ 13.3'; silt distri	sh, (3.0"x3.0") rock ibuted in intermitter	nt	4	Mean (mm): 0.21, Phi Sorting: (
	-		End of Bo	oring				-
	+							-
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	-							
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DR	ILLING	LO	G DIVISI	ION		INS	STAL	LATION	<u></u>	adon 141 v		SHEET 1 OF 1 SHEETS
1. PRO	JECT				CPE*	9.	SIZE	AND TYPE	OF BIT	3.0 ln.		1
١	North Topsa	ail 200	6 Vibracore	es	LPE				SYSTEM/DAT		ONTAL	VERTICAL
	•		rth Carolina			'''.			lina State Pla	!	D 1983	NAVD 88
	ING DESIG			LOCATION COORD	INATES	11.				NATION OF DRI		AUTO HAMMER
	NTVC-06-09		"	X = 2,474,575		١		NOI AOTOI	KER O DEGIO	NATION OF BIL	~ H	MANUAL HAMMER
	LLING AGEN		:		ACTOR FILE NO.	\vdash				DISTURBED		UNDISTURBED (UD
						12.	. то	TAL SAMPI	LES			
. NAN	IE OF DRILL	.ER		·		12	TO	TAL NUMB	ER CORE BO	VES	<u> </u>	
F	red Kaub					H						
	ECTION OF	BORIN	IG	DEG. FROM	BEARING	14.	. ELI	EVATION G	ROUND WAT	ER		
	VERTICAL			VERTICAL		 15.	. DA	TE BORING	ì	STARTED		COMPLETED
	INCLINED			!	!					07-20-06	16:17 <u>i</u>	07-20-06 16:25
. THI	CKNESS OF	OVER	BURDEN	0.0 Ft.		16.	. ELI	EVATION T	OP OF BORI	NG -32.8 F	₹t.	
, DED	TH DRILLED	INTO	BUCK	0.0 Ft.		17.	. то	TAL RECOV	/ERY FOR BO	DRING 20.	2 Ft.	
	III DRILLL		ROOK	0.011.		18.	. SIG	NATURE A	ND TITLE OF	FINSPECTOR		
в. тот	AL DEPTH (OF BO	RING 2	0.2 Ft.			Е	Beau Sutha	ard			
		Т				┪						
ELEV.	DEPTH (ft)	GEND		CLASSIFICATION OF			% REC.	ᅙ		RFI	MARKS	
(ft)		LEG	Depths a	nd elevations based	on measured value	s	REC.	BOX OR SAMPLE		KEN		
-32.8	0.0	• • • • • • • • • • • • • • • • • • •	SAND	fine to medium grain	ned little organics	\dashv		1	Sample #	1, Depth = 0.3	•	
-33.3	0.5	<u>[: </u>	│ little s	shell hash, trace silt,	, (2.0"x2.0") rock	Л		<u>'</u>	Mean (mr	n): 0.57, Phi S	orting: 2.	
	Γ	 ::	fragme	nt @ 0.2'; (2.0"x3.0"	') rock fragment @	- []			Shell Has	h: 12%, Fines	(230): 6.	08% (SW-SM)
	ŀ	 -:	\0	0.4', black (5Y-2.5/1)), (SW-SM).	لـ						
		 -:	SAND f	ine grained, trace sl	hell hash trace silt					2, Depth = 3.0		
	ŀ	[:][J. 11 1D, 1	gray (5Y-5/1), (S		"		2		n): 0.22, Phi S h: 0%, Fines (;		
	L	$\ \cdot\ $. , ,					Juleii Has	ii. 0 /0, FIIICS (/	200). I.S	0 /0 (OIOIVI)
		 ::										
-38.1	5.3	·.							Sample #	3, Depth = 5.5		
-38.9	6.1	 -		ine grained, trace s		.,		3		ວ, Depui - 5.5 n): 0.23, Phi S		70
-30.9	<u> </u>	 		2.0") partially lithified		٦Н				h: 0%, Fines (
	L	 .:		o") partially lithified s 2.0"x2.0") partially lith		ا /ا						
		 -:] \	5.9', gray (5Y-5/1),		┚┃						
	F	 ::				- [
	L	[::][}				- [
		$[\cdot]]$				- 1			Sample #	4, Depth = 11.	0'	
	F	 ::						4	Mean (mr	n): 0.19, Phi S	orting: 0.	34
		 .						•	Shell Has	h: 0%, Fines (230): 7.4	4% (SP-SM)
	†	[:.][
	L	[[:][}				- 1						
		 :	SVVID 4	ine grained, trace ro	ock fragmente tree	_ ا						
	F	-: I	shell has	sh, trace silt, (1.0"x1	organic nocket.") organic	s						
		1:.//	@ 18.	9' and 19.1', gray (5	SY-6/1), (SP-SM).							
	Γ	 :: }]			
	F	 ::	1			- 1						
		 :: 1				- 1						
	†	1:-				- [
		[::]] 				- [_		5, Depth = 17.		25
		 :-				- [5		ກ): 0.17, Phi S h: 0%, Fines (:		
	}	 :							Onlein Has	U /U, I IIICS (/	200). U.U	0 /0 (OI -OIVI)
		 .										
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-53.0	20.2	$[\cdot][\cdot]$				- 1						
55.0		 		End of Dori	ina	\dashv			1			
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PROJECT North Topsail 2006 Vibracores North Topsail, North Carolina BORING DESIGNATION NTVC-06-10 X = 2,475,243 Y = 268,810 DRILLING AGENCY CONTRACTOR FILE NO. DIRECTION OF BORING VERTICAL INCLINED DIRECTION OF BORING INCLINED DIRECTION OF BORING INCLINED DEG. FROM VERTICAL INCLINED DEFTH DRILLED INTO ROCK 0.0 Ft. DEPTH DRILLED INTO ROCK 0.0 Ft. TOTAL DEPTH OF BORING 20.0 Ft. P. SIZE AND TYPE OF BIT 3.0 In. 10. COORDINATE SYSTEM/DATUM HORIZONTAL NAMP SUBJECT OF BILL INCLINED 11. MANUFACTURER'S DESIGNATION OF DRILL INCLINED DISTURBED UNDISTURBED UNDISTURBED (UD) 12. TOTAL SAMPLES DISTURBED UNDISTURBED (UD) 14. ELEVATION GROUND WATER 15. DATE BORING 3.4 7 Ft. 16. ELEVATION TOP OF BORING 3.4 7 Ft. 17. TOTAL RECOVERY FOR BORING 19.4 Ft. 18. SIGNATURE AND TITLE OF INSPECTOR Beau Suthard	DR	ILLING	LOC	DIVISION		IN	STAL	LATION	SHEET 1 OF 1 SHEET:
North Topsail 2006 Vibracores North Topsail, North Carolina 10. CORRINATE SYSTEMBATUM NORTHCATAL VERTICAL NORTH TOPSAIL NORTHCATAL VERTICAL NORTH TOPSAIL NORTHCATCH NORTHCATCH NORTHCATCH NORTHCATCH NAD 1983 NAVD 98	I. PRO	JECT		•	CDC*	9.	SIZE	AND TYP	
North Topsall, North Carolina North Carolina State Plane	ı	North Topsa	il 2006	3 Vibracores	LPE	_			
DORTHO DESIGNATION LOCATION COORDINATES 11. MANUFACTUREE'S DESIGNATION OF DRILL		•				١''			: :
NTVC-06-10					OORDINATES	11			
DRILLING AGENCY				!		``			
12. TOTAL SAMPLES 13. TOTAL NUMBER CORE BOXES 14. ELEVATION GROUND WATER 15. DATE BORING 16. ELEVATION GROUND WATER 17. TOTAL DEPTH OF BORING 20.0 Ft. 17. TOTAL DEPTH OF BORING 20.0 Ft. 18. SIGNATURE AND TITLE OF INSPECTOR 19.4 Ft. 19.4 1. 19					· · · · · · · · · · · · · · · · · · ·	H			<u> </u>
Second Dec. Provided Dec. Provided Dec. Provided Dec.				-		12	. то	TAL SAMP	LES
Second Second	1. NAI	/IE OF DRILL	ER.	·		12	TO	TAL NIIMB	EP COPE BOYES
Internation of Borning Pec, From BEARING 14. ELEVATION GROUND WATER 0.7-21-06 10.06 0.7-21-06 10.11	ı	Fred Kaub				⊢			
SAND fine grained, quartz, trace shell hash, trace silt, gray (5Y-6/1), (SP-SM). SAND, fine grained, quartz, trace shell hash, trace silt, gray (5Y-6/1), (SP-SM). SAND, fine grained, quartz, trace shell hash, trace silt, gray (5Y-6/1), (SP-SM). Sample #4, Depth = 16.0' Mean (mm); 0.18, Phi Sorting; 0.36 Shell Hash: 0%, Fines (230); 5.29% (SP-SM) SAND, fine grained, quartz, trace shell hash, trace silt, gray (5Y-6/1), (SP-SM). SAND, fine grained, quartz, trace shell hash, trace silt, gray (5Y-6/1), (SP-SM). Sample #4, Depth = 16.0' Mean (mm); 0.18, Phi Sorting; 0.36 Shell Hash: 0%, Fines (230); 5.29% (SP-SM) Sample #4, Depth = 16.0' Mean (mm); 0.18, Phi Sorting; 0.36 Shell Hash: 0%, Fines (230); 5.29% (SP-SM) Sample #4, Depth = 16.0' Mean (mm); 0.18, Phi Sorting; 0.36 Shell Hash: 0%, Fines (230); 5.29% (SP-SM) Sample #4, Depth = 16.0' Mean (mm); 0.18, Phi Sorting; 0.36 Shell Hash: 0%, Fines (230); 5.29% (SP-SM) Sample #4, Depth = 16.0' Mean (mm); 0.18, Phi Sorting; 0.36 Shell Hash: 0%, Fines (230); 5.29% (SP-SM) Sample #4, Depth = 16.0' Mean (mm); 0.18, Phi Sorting; 0.36 Shell Hash: 0%, Fines (230); 5.29% (SP-SM) Sample #4, Depth = 16.0' Mean (mm); 0.18, Phi Sorting; 0.36 Shell Hash: 0%, Fines (230); 5.29% (SP-SM) Sample #4, Depth = 16.0' Mean (mm); 0.18, Phi Sorting; 0.36 Shell Hash: 0%, Fines (230); 5.29% (SP-SM) Sample #4, Depth = 16.0' Mean (mm); 0.18, Phi Sorting; 0.36 Shell Hash: 0%, Fines (230); 5.29% (SP-SM) Sample #4, Depth = 16.0' Mean (mm); 0.18, Phi Sorting; 0.36 Shell Hash: 0%, Fines (230); 5.29% (SP-SM) Sample #4, Depth = 16.0' Mean (mm); 0.18, Phi Sorting; 0.36 Shell Hash: 0%, Fines (230); 5.29% (SP-SM) Sample #4, Depth = 16.0' Mean (mm); 0.18, Phi Sorting; 0.36 Shell Hash: 0%, Fines (230); 5.29% (SP-SM) Sample #4, Depth = 16.0' Mean (mm); 0.18, Phi Sorting; 0.36 Shell Hash: 0%, Fines (230); 5.29% (SP-SM) Sample #4, Depth = 16.0' Mean (mm); 0.18, Phi Sorting; 0.36 Shell Hash: 0%, Fines (230); 5.29			BORIN		BEARING	14	. ELI	EVATION G	GROUND WATER
O7-21-06 10:06 O7-21-06 10:11	_			VERTICAL		15	. DA	TE BORING	
17. TOTAL RECOVERY FOR BORING 19.4 Ft.		INCLINED		!	!	L			07-21-06 10:06 07-21-06 10:1
TOTAL DEPTH OF BORING 20.0 Ft. 13. 3 SIGNATURE AND TITLE OF INSPECTOR Beau Suthard 15. 3 SIGNATURE AND TITLE OF INSPECTOR BEAU Suthard 15. 3 SIGNATURE AND TITLE OF INSPECTOR BEAU Suthard 15. 3 SIGNATURE AND TITLE OF INSPECTOR BEAU Suthard 15. 3 SIGNATURE AND TITLE OF INSPECTOR BEAU Suthard 15. 3 SIGNATURE AND TITLE OF INSPECTOR BEAU Suthard 15. 3 SIGNATURE AND TITLE OF INSPECTOR BEAU SUTHARD 15. 5 SIGNATURE AND TITLE OF INSPECTOR BEAU SUTHARD 15. 5 SIGNATURE AND TITLE OF INSPECTOR BEAU SUTHARD 15. 5 SIGNATURE AND TITLE OF INSPECTOR BEAU SUTHARD 15. 5 SIGNATURE AND TITLE OF INSPECTOR BEAU SUTHARD 15. 5 SIGNATURE AND TITLE OF INSPECTOR BEAU SUTHARD 15. 5 SIGNATURE AND TITLE OF INSPECTOR BEAU SUTHARD 15. 5 SIGNATURE AND TITLE OF INSPECTOR BEAU SUTHARD 15. 5 SIGNATURE AND TITLE OF INSPECTOR BEAU SUTHARD 15. 5 SIGNATURE AND TITLE OF INSPECTOR BEAU SUTHARD 15. 5 SIGNATURE AND TITLE OF INSPECTOR	. THI	CKNESS OF	OVERI	BURDEN 0.0 Ft.		16	. ELI	EVATION T	rop of boring -34.7 Ft.
18. SIGNATURE AND TITLE OF INSPECTOR Beau Suthard 18. SIGNATURE AND TITLE OF INSPECTOR Beau Suthard 18. SIGNATURE AND TITLE OF INSPECTOR Beau Suthard 18. SIGNATURE AND TITLE OF INSPECTOR Beau Suthard 18. SIGNATURE AND TITLE OF INSPECTOR Beau Suthard 18. SIGNATURE AND TITLE OF INSPECTOR Beau Suthard 18. SIGNATURE AND TITLE OF INSPECTOR Beau Suthard 18. SIGNATURE AND TITLE OF INSPECTOR Beau Suthard 18. SIGNATURE AND TITLE OF INSPECTOR Beau Suthard 18. SIGNATURE AND TITLE OF INSPECTOR Beau Suthard 18. SIGNATURE AND TITLE OF INSPECTOR Beau Suthard 18. SIGNATURE AND TITLE OF INSPECTOR Beau Suthard 18. SIGNATURE AND TITLE OF INSPECTOR Beau Suthard 18. SIGNATURE AND TITLE OF INSPECTOR Beau Suthard 18. Signature And Title Of Inspect Such and Title Of Inspect Suthard 18. Sample #1. Depth = 0.6*	, DED	TH DRILLED	INTO	BUCK UUEt		17	. то	TAL RECO	VERY FOR BORING 19.4 Ft.
CLASSIFICATION OF MATERIALS REC. Sample #1, Depth = 0.6		TIT DIVILLED		1.01 t.		18	. SIG	NATURE A	AND TITLE OF INSPECTOR
SAND, fine to medium grained, some shell hash, little shell fragments, trace silt, shell fragments, trace shell hash, little shell fragments, trace shell hash, trace silt, trace partially lithlifed sand balls < 0.5°; (0.5°x0.5°) nock fragment @ 3.4°, gray (5Y-6/1), (SP-SM). 39.4 4.7 39.4 4.7 39.5 SAND, fine grained, grained, grained, gray (5Y-6/1), (SP-SM). 39.6 A.7 30.6 SAND, fine grained, grained, grained, gray (5Y-6/1), (SP-SM). 30.6 Sample #1, Depth = 10.6° Mean (mm): 0.62, Phi Sorting: 1.95 Shell Hash: 17%, Fines (230): 1.27% (SW) 30.6 Sample #2, Depth = 3.0° Mean (mm): 0.21, Phi Sorting: 0.86 Shell Hash: 0%, Fines (230): 9.32% (SP-SM) 31 32 33 34 35 35 36 36 36 37 38 38 38 38 38 38 38 38 38	в. тот	AL DEPTH C	F BOF	20.0 Ft.			Е	Beau Sutha	ard
SAND, fine to medium grained, some shell hash, little shell fragments, trace silt, shell fragments, trace shell hash, little shell fragments, trace shell hash, trace silt, trace partially lithlifed sand balls < 0.5°; (0.5°x0.5°) nock fragment @ 3.4°, gray (5Y-6/1), (SP-SM). 39.4 4.7 39.4 4.7 39.5 SAND, fine grained, grained, grained, gray (5Y-6/1), (SP-SM). 39.6 A.7 30.6 SAND, fine grained, grained, grained, gray (5Y-6/1), (SP-SM). 30.6 Sample #1, Depth = 10.6° Mean (mm): 0.62, Phi Sorting: 1.95 Shell Hash: 17%, Fines (230): 1.27% (SW) 30.6 Sample #2, Depth = 3.0° Mean (mm): 0.21, Phi Sorting: 0.86 Shell Hash: 0%, Fines (230): 9.32% (SP-SM) 31 32 33 34 35 35 36 36 36 37 38 38 38 38 38 38 38 38 38								αШ	
SAND, fine to medium grained, some shell hash, little shell fragments, trace silt, shell fragments, trace shell hash, little shell fragments, trace shell hash, trace silt, trace partially lithlifed sand balls < 0.5°; (0.5°x0.5°) nock fragment @ 3.4°, gray (5Y-6/1), (SP-SM). 39.4 4.7 39.4 4.7 39.5 SAND, fine grained, grained, grained, gray (5Y-6/1), (SP-SM). 39.6 A.7 30.6 SAND, fine grained, grained, grained, gray (5Y-6/1), (SP-SM). 30.6 Sample #1, Depth = 10.6° Mean (mm): 0.62, Phi Sorting: 1.95 Shell Hash: 17%, Fines (230): 1.27% (SW) 30.6 Sample #2, Depth = 3.0° Mean (mm): 0.21, Phi Sorting: 0.86 Shell Hash: 0%, Fines (230): 9.32% (SP-SM) 31 32 33 34 35 35 36 36 36 37 38 38 38 38 38 38 38 38 38	ELEV.	DEPTH	N N				_%_	ᅙ	REMARKS
SAND, fine to medium grained, some shell hash, little shell fragments, trace silt, shell fragments, trace shell hash, little shell fragments, trace shell hash, trace silt, trace partially lithlifed sand balls < 0.5°; (0.5°x0.5°) nock fragment @ 3.4°, gray (5Y-6/1), (SP-SM). 39.4 4.7 39.4 4.7 39.5 SAND, fine grained, grained, grained, gray (5Y-6/1), (SP-SM). 39.6 A.7 30.6 SAND, fine grained, grained, grained, gray (5Y-6/1), (SP-SM). 30.6 Sample #1, Depth = 10.6° Mean (mm): 0.62, Phi Sorting: 1.95 Shell Hash: 17%, Fines (230): 1.27% (SW) 30.6 Sample #2, Depth = 3.0° Mean (mm): 0.21, Phi Sorting: 0.86 Shell Hash: 0%, Fines (230): 9.32% (SP-SM) 31 32 33 34 35 35 36 36 36 37 38 38 38 38 38 38 38 38 38			LEG	Depths and elevations l	pased on measured value	s	REC.	BO)	
1.3 3.4 1.3 3.5 1.3 3.5 1.3 3.5 1.3 3.5 1.3 3.5 1.3 3.5 1.3 3.5 1.3 3.5 1.3 3.5 1.3 3.5	-34.7	0.0	, <u>-</u>	SAND, fine to media	ım grained, some shell	-	<u> </u>		Sample #1, Depth = 0.6'
SAND, fine grained, quartz, trace shell hash, trace slitt, gray (5Y-6/1), (SP-SM). SAND, fine grained, quartz, trace shell hash, trace slitt, gray (5Y-6/1), (SP-SM). SAND, fine grained, quartz, trace shell hash, trace slitt, gray (5Y-6/1), (SP-SM). SAND, fine grained, quartz, trace shell hash, trace slitt, gray (5Y-6/1), (SP-SM). SAND, fine grained, quartz, trace shell hash, trace slitt, gray (5Y-6/1), (SP-SM). SAND, fine grained, quartz, trace shell hash, trace slitt, gray (5Y-6/1), (SP-SM). Sample #2, Depth = 3.0' Mean (mm): 0.21, Phi Sorting: 0.86 Shell Hash: 0%, Fines (230): 9.32% (SP-SM) Sample #3, Depth = 8.0' Mean (mm): 0.18, Phi Sorting: 0.43 Shell Hash: 0%, Fines (230): 7.14% (SP-SM) Sample #4, Depth = 16.0' Mean (mm): 0.18, Phi Sorting: 0.36 Shell Hash: 0%, Fines (230): 5.29% (SP-SM)	00.5		<i>\(\)</i>	hash, little shell frag	ments, trace silt, shell			1	Mean (mm): 0.62, Phi Sorting: 1.95
SAND, fine grained, trace rock fragments, trace shell hash, trace slit, trace partially lithfied sand balls < 0.5°; (0.5°%0.5°) rock fragment @ 3.4°, gray (5Y-6/1), (SP-SM). 39.4 4.7 Sample #2, Depth = 3.0′ Mean (mm); 0.21, Phi Sorting; 0.66 Shell Hash: 0%, Fines (230): 9.32% (SP-SM) Sample #3, Depth = 8.0′ Mean (mm); 0.18, Phi Sorting; 0.43 Shell Hash: 0%, Fines (230): 7.14% (SP-SM) SAND, fine grained, quartz, trace shell hash, trace slit, gray (5Y-6/1), (SP-SM). SAND, fine grained, quartz, trace shell hash, trace slit, gray (5Y-6/1), (SP-SM).	<u>36.0</u>	1.3	100			Н			Shell Hash: 17%, Fines (230): 1.27% (SW)
shell hash, trace silt, trace partially lithfied sand balls < 0.5"; (0.5"\(0.5"\)\(0.5		ļ.	 [:]]			-/			
balls < 0.5"; (0.5"x0.5") rock fragment @ 3.4", gray (5Y-6/1), (SP-SM). Shell Hash: 0%, Fines (230): 9.32% (SP-SM) Sample #3, Depth = 8.0' Mean (mm): 0.18, Phi Sorting: 0.43 Shell Hash: 0%, Fines (230): 7.14% (SP-SM) SAND, fine grained, quartz, trace shell hash, trace silt, gray (5Y-6/1), (SP-SM). Sample #4, Depth = 16.0' Mean (mm): 0.18, Phi Sorting: 0.36 Shell Hash: 0%, Fines (230): 5.29% (SP-SM) Sample #4, Depth = 16.0' Mean (mm): 0.18, Phi Sorting: 0.36 Shell Hash: 0%, Fines (230): 5.29% (SP-SM)			:-						
39.4 4.7 Sample #3, Depth = 8.0' Mean (mm): 0.18, Phi Sorting: 0.43 Shell Hash: 0%, Fines (230): 7.14% (SP-SM) SAND, fine grained, quartz, trace shell hash, trace silt, gray (5Y-6/1), (SP-SM). SAND, fine grained, quartz, trace shell hash, trace silt, gray (5Y-6/1), (SP-SM). Sample #4, Depth = 16.0' Mean (mm): 0.18, Phi Sorting: 0.36 Shell Hash: 0%, Fines (230): 5.29% (SP-SM)		 	 .:					2	
Sample #3, Depth = 8.0' Mean (mm): 0.18, Phi Sorting: 0.43 Shell Hash: 0%, Fines (230): 7.14% (SP-SM) SAND, fine grained, quartz, trace shell hash, trace silt, gray (5Y-6/1), (SP-SM). Sample #4, Depth = 16.0' Mean (mm): 0.18, Phi Sorting: 0.36 Shell Hash: 0%, Fines (230): 5.29% (SP-SM) No Recovery.		L	 :.						Shell Hash: 0%, Fines (230): 9.32% (SP-SM)
Sample #3, Depth = 8.0' Mean (mm): 0.18, Phi Sorting: 0.43 Shell Hash: 0%, Fines (230): 7.14% (SP-SM) SAND, fine grained, quartz, trace shell hash, trace silt, gray (5Y-6/1), (SP-SM). Sample #4, Depth = 16.0' Mean (mm): 0.18, Phi Sorting: 0.36 Shell Hash: 0%, Fines (230): 5.29% (SP-SM) No Recovery.	39.4	4.7	:.						
SAND, fine grained, quartz, trace shell hash, trace slit, gray (5Y-6/1), (SP-SM). Sample #4, Depth = 16.0' Mean (mm): 0.18, Phi Sorting: 0.43 Shell Hash: 0%, Fines (230): 7.14% (SP-SM) Sample #4, Depth = 16.0' Mean (mm): 0.18, Phi Sorting: 0.36 Shell Hash: 0%, Fines (230): 5.29% (SP-SM) No Recovery.		- "	 -						
SAND, fine grained, quartz, trace shell hash, trace slit, gray (5Y-6/1), (SP-SM). Sample #4, Depth = 16.0' Mean (mm): 0.18, Phi Sorting: 0.43 Shell Hash: 0%, Fines (230): 7.14% (SP-SM) Sample #4, Depth = 16.0' Mean (mm): 0.18, Phi Sorting: 0.36 Shell Hash: 0%, Fines (230): 5.29% (SP-SM) No Recovery.			$\left\ \cdot \right\ \left\ \right\ $						
SAND, fine grained, quartz, trace shell hash, trace slit, gray (5Y-6/1), (SP-SM). Sample #4, Depth = 16.0' Mean (mm): 0.18, Phi Sorting: 0.43 Shell Hash: 0%, Fines (230): 7.14% (SP-SM) Sample #4, Depth = 16.0' Mean (mm): 0.18, Phi Sorting: 0.36 Shell Hash: 0%, Fines (230): 5.29% (SP-SM) No Recovery.		-	 ∙:}}						
SAND, fine grained, quartz, trace shell hash, trace slit, gray (5Y-6/1), (SP-SM). Sample #4, Depth = 16.0' Mean (mm): 0.18, Phi Sorting: 0.43 Shell Hash: 0%, Fines (230): 7.14% (SP-SM) Sample #4, Depth = 16.0' Mean (mm): 0.18, Phi Sorting: 0.36 Shell Hash: 0%, Fines (230): 5.29% (SP-SM) No Recovery.		L							
SAND, fine grained, quartz, trace shell hash, trace slit, gray (5Y-6/1), (SP-SM). Sample #4, Depth = 16.0' Mean (mm): 0.18, Phi Sorting: 0.43 Shell Hash: 0%, Fines (230): 7.14% (SP-SM) Sample #4, Depth = 16.0' Mean (mm): 0.18, Phi Sorting: 0.36 Shell Hash: 0%, Fines (230): 5.29% (SP-SM) Sample #4, Depth = 16.0' Mean (mm): 0.18, Phi Sorting: 0.36 Shell Hash: 0%, Fines (230): 5.29% (SP-SM)			 [:]]						
Shell Hash: 0%, Fines (230): 7.14% (SP-SM) SAND, fine grained, quartz, trace shell hash, trace silt, gray (5Y-6/1), (SP-SM). Sample #4, Depth = 16.0' Mean (mm): 0.18, Phi Sorting: 0.36 Shell Hash: 0%, Fines (230): 5.29% (SP-SM) -54.1 19.4 11 -54.7 20.0 No Recovery.		-	 [:]]						
SAND, fine grained, quartz, trace shell hash, trace silt, gray (5Y-6/1), (SP-SM). Sample #4, Depth = 16.0' Mean (mm): 0.18, Phi Sorting: 0.36 Shell Hash: 0%, Fines (230): 5.29% (SP-SM) No Recovery.			1.:441					3	
trace silt, gray (5Y-6/1), (SP-SM). Sample #4, Depth = 16.0' Mean (mm): 0.18, Phi Sorting: 0.36 Shell Hash: 0%, Fines (230): 5.29% (SP-SM) Sample #4, Depth = 16.0' Mean (mm): 0.18, Phi Sorting: 0.36 Shell Hash: 0%, Fines (230): 5.29% (SP-SM) No Recovery.		 	 •.						Shell Hash: 0%, Fines (230): 7.14% (SP-SNI)
trace silt, gray (5Y-6/1), (SP-SM). Sample #4, Depth = 16.0' Mean (mm): 0.18, Phi Sorting: 0.36 Shell Hash: 0%, Fines (230): 5.29% (SP-SM) 54.1 19.4 No Recovery.		L	:.						
trace silt, gray (5Y-6/1), (SP-SM). Sample #4, Depth = 16.0' Mean (mm): 0.18, Phi Sorting: 0.36 Shell Hash: 0%, Fines (230): 5.29% (SP-SM)			<u> </u> [::][
trace silt, gray (5Y-6/1), (SP-SM). Sample #4, Depth = 16.0' Mean (mm): 0.18, Phi Sorting: 0.36 Shell Hash: 0%, Fines (230): 5.29% (SP-SM)		-	 ∷ ∦						
trace silt, gray (5Y-6/1), (SP-SM). Sample #4, Depth = 16.0' Mean (mm): 0.18, Phi Sorting: 0.36 Shell Hash: 0%, Fines (230): 5.29% (SP-SM) 54.1 19.4 No Recovery.			 -:	SAND fine grained	quartz traco chall bach				
Sample #4, Depth = 16.0' Mean (mm): 0.18, Phi Sorting: 0.36 Shell Hash: 0%, Fines (230): 5.29% (SP-SM) - 19.4 54.7 20.0 No Recovery.		-	<u> </u> :						1
4 Mean (mm): 0.18, Phi Sorting: 0.36 Shell Hash: 0%, Fines (230): 5.29% (SP-SM) 		L	 :-		,, (,-				
4 Mean (mm): 0.18, Phi Sorting: 0.36 Shell Hash: 0%, Fines (230): 5.29% (SP-SM) 54.1 19.4 11 54.7 20.0 No Recovery.			$\ \cdot\ $						
4 Mean (mm): 0.18, Phi Sorting: 0.36 Shell Hash: 0%, Fines (230): 5.29% (SP-SM) 		-	 :						
4 Mean (mm): 0.18, Phi Sorting: 0.36 Shell Hash: 0%, Fines (230): 5.29% (SP-SM) 			ŀ∷∰						
Shell Hash: 0%, Fines (230): 5.29% (SP-SM) 54.1 19.4		 	 :.						
54.1 19.4		L	[:-]]					4	
54.7 20.0 No Recovery.			$[\cdot]]$						Snell Hasn: U%, Fines (230): 5.29% (SP-SM)
54.7 20.0 No Recovery.		-	┢╢╢						
54.7 20.0 No Recovery.			 						
54.7 20.0 No Recovery.		Γ	[::[]						
54.7 20.0 No Recovery.	5/ 1	10.4	 ::						
, , , , , , , , , , , , , , , , , , , ,			╂╌┼┼┤	No R	ecovery				1
End of Boring	-54.7	20.0			•				
		L		End o	of Boring				
		Γ							
		-							
		-							
		L							
		1							1

		T	-			ig Designation	N I V C-06-	1
DRILLING	LOG	DIVISION		INSTAL	LATION			SHEET 1 OF 1 SHEETS
1. PROJECT		•	_CPE*	9. SIZE	AND TYPE	OF BIT 3.0 r	٦.	
North Topsai	il 2006 V	'ibracores				SYSTEM/DATUM	HORIZONTAL	VERTICAL
North Topsai	il. North	Carolina				ina State Plane	NAD 1983	NAVD 88
. BORING DESIGN		LOCATION COORD	DINATES			RER'S DESIGNATION	•	1 AUTO HAMMER
NTVC-06-11		X = 2,474,339						MANUAL HAMMER
B. DRILLING AGEN			RACTOR FILE NO.			DIST	JRBED	UNDISTURBED (UD)
				12. TO	TAL SAMPL	.ES		` ´
. NAME OF DRILLE	ER	•		13 TO	TAI NIIMRI	ER CORE BOXES		
Fred Kaub								
. DIRECTION OF B	ORING	DEG. FROM	BEARING	14. EL	EVATION G	ROUND WATER		
VERTICAL		VERTICAL		15. DA	TE BORING	STAR		COMPLETED
☐ INCLINED		!	!			07-	-21-06 11:03	07-21-06 11:08
. THICKNESS OF C	OVERBU	RDEN 0.0 Ft.		16. EL	EVATION T	OP OF BORING	-38.0 Ft.	
. DEPTH DRILLED	INTO RO	OCK 0.0 Ft.		17. TO	TAL RECOV	ERY FOR BORING	19.8 Ft.	
		0.011.		18. SIC	NATURE A	ND TITLE OF INSPE	CTOR	
. TOTAL DEPTH O	F BORIN	G 20.0 Ft.		Е	Beau Sutha	ard		
	۵				ωШ			
LEV. DEPTH	EGEND	CLASSIFICATION OF		REC.	BOX OR SAMPLE		REMARKS	
(ft) (ft) -38.0 0.0	E	Depths and elevations based	on measured values	REC.	SAN			
38.0 0.0				+				
	[.·][
<u> </u>	 . ∙↓↓							
	.:							
	[·. ∤∏							
-	l††							
		SAND, fine grained, quart	z trace shell hash			Sample #1, Dept		
†	::1] 	trace silt, gray (5Y-5)	/1), (SP-SM).		1	Mean (mm): 0.19		
L	. ·	3 - 7 (// (- - /			Shell Hash: 0%,	Fines (230): 7.6	52% (SP-SIVI)
	 .							
- 1	 -: }]							
	·.							
- 1	l*•1†							
46.0 8.0	[::][
	1111			_				
-	 							
	[†‡†‡[
–	!							
	<u> </u>	SAND, fine grained, quartz	little silt trace shell			Sample #2, Dept	h = 12 0'	
	[hash, 0.25" rock fragme			2	Mean (mm): 0.17).61
	<u> </u>	(5Y-5/1), (S	SM).			Shell Hash: 0%,	Fines (230): 14	.95% (SM)
	[† <u>‡</u> †‡[
L	[
52.7 14.7	[# <u>#</u> ##]							
- 17.7	 			1		1		
	[
F I	<u> </u>							
	Ĭ ┼Ĭ┼Ĭ	CAND for such	-114 4			Sample #3, Dept	h = 17.0'	
<u> </u>	[[SAND, fine grained, some s olive gray (5Y-5/	siit, trace shell hash, /2) (SM)		3	Mean (mm): 0.20), Phi Sorting: 0	.99
ļ. l		Olive gray (31-5/	-2 _j , (Οινι).			Shell Hash: 1%,	Fines (230): 24	.15% (SM)
	[
 								
57.8 19.8	<u> </u>			_				
58.0 20.0	\sqcap	No Recove	ery.	1				
		End of Bor	ring					
		2 51 501	5					
<u> </u>								
t l								
L I								
					l	l		

DRILL	ING	LOG	DIVISION	IN	STAL	LATION	SHEET 1	
1. PROJECT				٩	SIZE	AND TYPI	OF 1 SHEE* E OF BIT 3.0 n.	rs
North	Topsa		S Vibracores	Ŀ	. co	ORDINATE	SYSTEM/DATUM HORIZONTAL VERTICAL	\dashv
North			th Carolina LOCATION COORDINATES	44			lina State Plane NAD 1983 NAVD 88 RER'S DESIGNATION OF DRILL AUTO HAMMER	
	C-06-12		X = 2,475,821 Y = 265,299	l'''	. 14174	NOFACIO	RER'S DESIGNATION OF DRILL AUTO HAMMER MANUAL HAMM	
. DRILLING	AGEN	CY	CONTRACTOR FILE NO.	12.	. то	TAL SAMPI	DISTURBED UNDISTURBED (U	JD)
. NAME OF		ER	•	13.	. то	TAL NUMB	ER CORE BOXES	
Fred h		ORING	DEG. FROM BEARING	14.	. ELI	EVATION G	ROUND WATER	
⊠ VERT	TICAL		VERTICAL	15.	. DA	TE BORING	STARTED COMPLETED 09-28-06 11:39 09-28-06 11:	51
. THICKNE	SS OF	OVERB	BURDEN 0.0 Ft.	16.	. EL	EVATION T	OP OF BORING -37.3 Ft.	
. DEPTH DI	RILLED	INTO	ROCK 0.0 Ft.	17.	. то	TAL RECO	VERY FOR BORING 19.8 Ft.	
. TOTAL DI	EDTH O	E ROP	ING 20.0 Ft.	18.			AND TITLE OF INSPECTOR	
. IOTAL DI	EFINO		20.0 Ft.	ᅩ	<u> </u>	(en Wilson	1 T	
	EPTH (ft)	LEGEND	CLASSIFICATION OF MATERIALS Depths and elevations based on measured value	es	% REC.	BOX OR SAMPLE	REMARKS	
37.6	0.3		SAND, medium grained, quartz, some shell hash, little silt, little echinoderm spines, gray			1	Sample #1, Depth = 0.2' Mean (mm): 0.34, Phi Sorting: 1.83	
-		 -:	(5Y-6/1), (SW-SM).	_/			Shell Hash: 7%, Fines (230): 9.97% (SW-SM)	F
-		<u> </u> :-						ŀ
		-:					Sample #2, Depth = 4.0'	
		 ∷-				2	Mean (mm): 0.19, Phi Sorting: 0.48 Shell Hash: 0%, Fines (230): 8.53% (SP-SM)	
ŀ		-: <u> </u>					Shoil Flaght. 675, Finds (255). 6.6676 (Gr. 6111)	
L		:-						ļ
			SAND, medium grained, quartz, trace shell					
Ī			fragments, trace shell hash, trace silt, (2.0"x2.0") rock fragments @ 1.4', 3.4', and					l
-			12.2', (2)1.0" rock fragments @12.2'; (2) 2.0' shell fragments @ 11.6', gray (5Y-6/1),	"			Sample #3, Depth = 8.0'	
L		·:	(SP-SM).			3	Mean (mm): 0.18, Phi Sorting: 0.49	
							Shell Hash: 0%, Fines (230). 6.59% (SP-SM)	
Ī		·:						
-		 :- ∦						
L		·:					Sample #4, Depth = 11.0'	
		.·				4	Mean (mm): 0.18, Phi Sorting: 0.66 Shell Hash: 1%, Fines (230): 8.72% (SP-SM)	
		<u> </u> ::					(3. 3)	
-50.3	13.0	0		\dashv			1	ŀ
Ļ			Sandy GRAVEL, little shell hash, gravel up to				Sample #5, Depth = 14.4'	
			3.0", gray (5Y-6/1), (GW-GM).			5	Mean (mm): 1.46, Phi Sorting: 2.26 Shell Hash: 5%, Fines (230): 7.59% (SW-SM)	
52.9	15.6	9					2	
		$HH\Pi$						
Ĺ		[[]						
			SAND, fine grained, quartz, little silt, trace she	ell		6	Sample #6, Depth = 18.0' Mean (mm): 0.17, Phi Sorting: 0.85	
ŀ		[[]	hash, (10Y-5/4), (SM).				Shell Hash: 1%, Fines (230): 17.53% (SM)	
-		[<u> </u>						
	19.8 20.0/	₩	No Recovery.	_			1	
-57.3	∠∪.∪∕		•	-				
ŀ			End of Boring					
-								
Ī								
ŀ								

DRI	ILLING L	.OG	DIVISION		INST	TALL	ATION	ig Designa			SHEET 1 OF 1 SHEETS
1. PRO	JECT			CPE*	9. 5	SIZE	AND TYPE	OF BIT	3.0 ln.		OF 1 SHEETS
	North Topsail : North Topsail,					coc	RDINATE	SYSTEM/DATU	JM HORIZONTA		VERTICAL NAVD 88
	ING DESIGNA		LOCATION COORI	DINATES	11.				ATION OF DRILL		UTO HAMMER
	NTVC-06-13		X = 2,475,637	Y = 263,993							IANUAL HAMMER
3. DRIL	LING AGENC	Y	CONTI	RACTOR FILE NO.	12.	тот	AL SAMPL	LES	DISTURBED	UN	NDISTURBED (UD)
	IE OF DRILLER	R			13.	тот	AL NUMBI	ER CORE BOX	ES		
	red Kaub	DING	DEG. FROM	BEARING	14.	ELE	VATION G	ROUND WATE	R		
\boxtimes	VERTICAL INCLINED	KING	VERTICAL	l I	15.	DAT	E BORING	i	STARTED 09-28-06 12:24		OMPLETED 09-28-06 12:35
6. THIC	CKNESS OF O	VERBU	RDEN 0.0 Ft.		16.	ELE	VATION T	OP OF BORING	-37.8 Ft.		
7 DED	TH DRILLED II	NTO PO	OCK 0.0 Ft.		17.	тот	AL RECOV	/ERY FOR BOR	RING 14.6 Ft.		
7. DEP	IN DRILLED II	NIO RC	0.0 Ft.		18.	SIG	NATURE A	ND TITLE OF	INSPECTOR		
8. ТОТ	AL DEPTH OF	BORIN	IG 15.0 Ft.			K	en Wilson				
ELEV. (ft)	DEPTH (ft)	ш і	CLASSIFICATION OF Depths and elevations based		s R	% EC.	BOX OR SAMPLE		REMARK	s	
-37.8	0.0	-	SAND, fine grained, quar	trace shell hash	_	\dashv	1 /	Sample #1	, Depth = 0.1'		
38.0/ 38.7	0.2/		trace silt, light olive gray (5Y-6/2), (SW-SM).			2	Mean (mm): 0.21, Phi Sorting	յ։ 1.27	, , , , , , , , , , , , , , , , , , , ,
			SAND, medium grained, li shell fragments, trace silt, s					Shell Hash Sample #2		9.53%	% (SW-SM)
	- II		0.75", olive gray (5Y-		<u>"</u>			Mean (mm): 0.72, Phi Sorting		
	<u> </u>		-	, ,	_			Shell Hash	: 7%, Fines (230): , Depth = 3.0'	5.07%	% (SW-SM)
	•		SAND, fine grained, quart fragment @ 1.4', very dark				3		, Deptii = 3.0): 0.19, Phi Sorting	a: 1.06	3
	- II]	nagmont & my dant	gray (01 0/1), (011)	"				: 1%, Fines (230):		
		111									
-43.6	5.8	1111									
-40.0	- 3.0		Sandy GRAVEL, trace sil	t, gravel up to 3.0",		ŀ	4		, Depth = 6.0'): 1.43, Phi Sortino	v. 2 10	•
-44.6	6.8		gray (5Y-6/1), (GW-GM).		ļ	4). 1.43, Fill 301(11) : 0%, Fines (230):		
	[·	-							, ,		,
	├ <u>`</u>	-]]							D 11 0.01		
	<u> </u>	:	SAND, fine grained, quart				5		, Depth = 9.0'): 0.19, Phi Sorting	n: 0.42)
	[]	·	trace silt, gray (5Y-5	5/1), (SP-SM).			Ü		: 0%, Fines (230):		
	├ .	-]]									
-48.8	11.0	:									
	•										
	ŀ ŀ	.	SAND, fine grained, quartz	little eilt trace ebe				Cample #6	, Depth = 13.0'		
	[hash, 0.2" pocket of 5Y-5/2				6		, Depti1 – 13.0): 0.19, Phi Sorting	յ։ 0.75	5
	[·	: 	gray (5Y-5/1), (Shell Hash		11.09	% (SP-SM)
-52.4	14.6	$\cdot $									
-52.8	15.0		No Recov	ery.		ŀ		1			
				ring							
			End of Bo	ııııy							
	-										
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DR	ILLING	LO	DIVISI	ION		INS	STAL	LATION	<u> </u>	adon 141 v		SHEET 1 OF 1 SHEE	75
1. PRO	JECT		ı		ODE*	9.	SIZE	AND TYPE	OF RIT	3.0 ln.		01 1 01122	
1	North Topsa	il 200	6 Vibracore	es	CPE*				SYSTEM/DAT		ZONTAL	VERTICAL	
	North Topsa					10.				!	D 1983	NAVD 88	
	ING DESIGN	-		LOCATION COOR	PINATES	11			ina State Pla	NATION OF DR		7 AUTO HAMMER	
	NTVC-06-14		•		Y = 263,170	l · ··	IVI	MOFACION	CER 3 DESIGN	NATION OF DE	````] MANUAL HAMN	
	LLING AGEN		<u> </u>		RACTOR FILE NO.	\vdash				DISTURBED		UNDISTURBED (
J. DIVI	LLING AGEN			ļ com	MACTOR FILL NO.	12.	то	TAL SAMPL	.ES	HOTORDED		!	٦, ا
4. NAN	IE OF DRILL	ER		<u> </u>		42				·		!	
	red Kaub					13.	10	TAL NUMBI	ER CORE BOX	KES			
	ECTION OF I	BORIN	G	DEG. FROM	BEARING	14.	ELI	EVATION G	ROUND WAT	ER			
	VERTICAL			VERTICAL		15	DA	TE BORING	1	STARTED		COMPLETED	
	INCLINED			i	i	LÜ				09-28-06	15:59	09-28-06 16	:07
6. THI	CKNESS OF	OVER	BURDEN	0.0 Ft.		16.	ELI	EVATION T	OP OF BORIN	-38.0	Ft.		
				0.0.54		17.	то	TAL RECOV	/ERY FOR BO	RING 15	.1 Ft.		
7. DEP	TH DRILLED	INTO	ROCK	0.0 Ft.						INSPECTOR			
8. тот	AL DEPTH C	F BOI	RING 19	9.0 Ft.		10.		Ken Wilson		INSPECTOR			
	1	Π_				┰	r		1				
ELEV.	DEPTH	GEND	l c	CLASSIFICATION C	F MATERIALS		0/2	BOX OR SAMPLE					
(ft)	(ft)	EG			ed on measured value	s I	% REC.	ΑŠ		RE	MARKS		
-38.0	0.0							BO					
		 •. [04115 6	~									
	ŀ	[:.][]			tz, little silt, trace rocl sh, rock fragments up			1		1, Depth = 1.0 n): 0.20, Phi \$		1 72	ŀ
		 		o 1.0", gray (5Y-5		'		'				0.72 0.37% (SP-SM)	
-40.5	2.5	 [::]}		.oo , g.a., (o. c	,, (0. 0).					0 70, 100	(=00)0		r
		.							1				L
		 -											
	L-	 - [SAN	ND, fine grained, o	quartz, trace rock					2, Depth = 4.0			ŀ
		I ∙∶∤∤∫	fragme	ents, trace shell h	ash, trace silt, rock			2	Mean (mn	n): 0.20, Phi S	Sorting: 0).49	
	 -	 [.	fragmer	nts up to 1.0", gra	y (5Y-5/1), (SP-SM).	٠ ا			Shell Hasi	h: 0%, Fines	(230): 6.4	48% (SP-SM)	H
		[[:][}											
-44.3	6.3	 : 				\dashv			-				Ī
	L	 -	SAND,	fine grained, qua	rtz, trace shell hash,	ا .			Sample #3	3, Depth = 7.0)'		L
		[[:]]}	trace siit,	, 1.0 Slit pocket (2) 6.4'; 0.6" silt pocke ent @ 8.5', greenish	^{et}		3		n): 0.18, Phi S			
-46.5	8.5	$[\cdot]]$	Q 0.0	gray (10Y-5/1)					Shell Hasl	h: 1%, Fines	(230): 6.6	69% (SP-SM)	ŀ
-40.5	0.5	 : 		g.e., (,	, (====================================	-			1				
	 	$[\cdot]]$											-
	L	 .:											_
		 -: }]			z, little silt, trace she			١,		4, Depth = 10			
	-	 *•	nasn, (0.6" slit pocket @ (10Y-5/1), (\$	9.0', greenish gray			4		n): 0.17, Phi S).22% (SP-SM)	-
		[:-][(101-5/1), (3	or -Olvi).				OHEH HAS	ii. 0 /0, i ii iCS	(200) . 10	(OI -OIVI)	
	-	[:-] }											F
-51.0	13.0]				L
		HHI	SAND fi	ine grained guart	z, some gravel, some	ج			Sample #	5, Depth = 13	0'		
	F	[†‡†‡			rock fragments up to			5	Mean (mn	n): 0.20, Phi S	Sorting: 1		ŀ
52 1	15.1	 	2.0", grav	vel up to 3.0", oliv	e gray (5Y-5/2), (SM).			Shell Hasi	h: 1%, Fines	(230): 20).91% (SM)	
-53.1	15.1	 				\dashv			1				F
	L					- [L
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	-			No Reco	very.								L
					,								
	ŀ												ŀ
-57.0	19.0					- 1							
	[End of B	orina	\neg							ſ
	L			LIIG OF BO	omig	- [L
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SAJ FORM 1836 JUN 02

DRILL	LING	LOG	DIVISION	INS	TALI	LATION	SHEET	
1. PROJEC				-	SIZE	AND TYPE		SHEETS
	•		Vibracores n Carolina	_	СО	ORDINATE	SYSTEM/DATUM HORIZONTAL VERTIC	AL D 88
. BORING				11.			RER'S DESIGNATION OF DRILL AUTO HAI	MMER
NTV B. DRILLIN	/C-06-15 IG AGEN		X = 2,473,019 Y = 261,822 CONTRACTOR FILE NO.	12.	то	TAL SAMPI	DISTURBED UNDISTUR	
. NAME O	F DRILL	ER	!	13.	TO:	TAL NUMB	ER CORE BOXES	
	l Kaub			\vdash			ROUND WATER	
DIRECT VER		BORING	DEG. FROM BEARING VERTICAL	\vdash		TE BORING	STARTED COMPLETE	ED 16 16:57
. THICKN	IESS OF	OVERBU	URDEN 0.0 Ft.	16.	ELE	EVATION T	OP OF BORING -37.2 Ft.	
. DEPTH	DRILLED	INTO R	ROCK 0.0 Ft.	17.	TO.	TAL RECOV	VERY FOR BORING 20.5 Ft.	
. TOTAL I	DEPTH O	F BORI	NG 20.0 Ft.	18.		ENATURE A Cen Wilson	AND TITLE OF INSPECTOR	
(ft)	DEPTH (ft)	EGEND	CLASSIFICATION OF MATERIALS Depths and elevations based on measured valu	es F	"KEC.	BOX OR SAMPLE	REMARKS	
-37.2 0 -37.6	0.4	-	SAND, fine grained, quartz, trace shell hash,	+		= 0	Sample #1, Depth = 0.2'	
38.0	0.8		trace silt, gray (5Y-5/1), (SW). SAND, medium grained, quartz, some shell	_/{		2	Mean (mm): 0.29, Phi Sorting: 1.23 Shell Hash: 3%, Fines (230): 1.49% (SW)	
38.7	1.5_		hash, trace shell fragments, trace silt, shell	Н		3	Sample #2, Depth = 0.6' Mean (mm): 0.81, Phi Sorting: 1.98	
		֓֞֓֓֓֓֓֓֓֓֓֓֓֓֓֓֓֓֓֓֓֓֓֓֓֓֓֓֓֓֓֓֓֓֓֓֓	fragments up to 1.75", dark gray (5Y-4/1), (SW).	$_{\parallel}$			Shell Hash: 21%, Fines (230): 1.83% (SW))
			SAND, medium grained, quartz, some rock fragments, trace shell hash, trace silt, rock	Ш		4	Sample #3, Depth = 1.0' Mean (mm): 0.27, Phi Sorting: 1.19	
ŀ			fragments up to (3.5"x2.0"), gray (5Y-5/1),	Ш			Shell Hash: 3%, Fines (230): 3.98% (SW)	
42.6	5.4	°	(GW). SAND, medium grained, quartz, trace rock	-			Sample #4, Depth = 3.0' Mean (mm): 0.45, Phi Sorting: 2.43	
72.0	<u> </u>	 -: 	fragments, trace shell hash, trace silt, (3.0"x2.0") rock fragment @8.0', 0.1" rock	П			Shell Hash: 13%, Fines (230): 8.96% (SW-	SM)
			fragment @ 8.7', olive gray (5Y-5/2), (SW-SM	1).				
<u> </u>			SAND, fine grained, quartz, trace shell hash,					
ŀ		<u> </u> :-	trace silt, (3.0"x2.0") rock fragment @ 8.0'; 1.0			5	Sample #5, Depth = 9.0' Mean (mm): 0.18, Phi Sorting: 0.61	
L		 -: }	rock fragment @ 8.7', olive gray (5Y-5/2), (SP-SM).				Shell Hash: 0%, Fines (230): 9.71% (SP-SI	M)
		 ::						
٦, ٦	11.0	 						
48.2	11.0	 : 		\dashv			Commis #C Donth - 40.0	
-		 -:	SAND, fine grained, quartz, little silt, trace she hash, olive gray (5Y-5/2), (SP-SM).	ell		6	Sample #6, Depth = 12.0' Mean (mm): 0.17, Phi Sorting: 0.63	
50.2	13.0		riasti, olive gray (51-5/2), (SP-Sivi).				Shell Hash: 0%, Fines (230): 10.17% (SP-	3M)
İ		 						
F		╽ ┼┼┼╽	SAND, fine grained, guartz, little silt, trace she	الد				
L			hash, 0.5" partially lithified sand balls			7	Sample #7, Depth = 15.0' Mean (mm): 0.27, Phi Sorting: 1.67	
		 	throughout, (1.0"x1.0") rock fragment @ 16.7 olive gray (5Y-5/2), (SM).	",		•	Shell Hash: 1%, Fines (230): 18.52% (SM)	
ľ		<u> </u>	g.a., (c					
-		 						
56.2	19.0		CAND modium around average trace and	_				
57.7	20.5		SAND, medium grained, quartz, trace silt, Expansion from 20.0' to 20.5', olive gray (5Y-5/2), (SP).					
}			End of Boring					
-			Č					
ſ								
ŀ								